Evaluating Learner Autonomy during the Covid-19: An Examination of Student Teachers' Self-Directed Learning Readiness for MOOCs

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In March 2020, the covid-19 pandemic outbreak forced universities in Turkey to move their educational activities onto online platforms. Massive Open Online Courses (MOOCs) thereupon have gained urgent attention from higher education institutions thanks to their capacity to make educational opportunities accessible to the masses. Similarly, an area of increasing importance recently has been the concept of self-directed learning (SDL) for online learners. The purpose of this study is to find out student teachers' readiness for MOOCs and their learner autonomy development in a MOOC learning environment based on the theoretical models of SDL. Thus, to expand the capacity for teacher professional autonomy, the present research has focused more on autonomy in distance learning. The study is likely to offer valuable insights into the views of teacher educators on being in a better position to assess the concept of learner autonomy in MOOCs for post-covid educational practices.

Keywords: autonomous learning, self-directed learning, massive open online courses (MOOCs), student teachers, teacher education, English language teaching

INTRODUCTION

Given the distinctive rise of online learning during the covid-19 pandemic, teaching has been conducted remotely and on digital platforms, whereby education has changed fundamentally (Carrillo & Flores, 2020; Li & Lalani, 2020). Therefore, an area of increasing importance over recent years has been the concept of learner autonomy, which requires learners to manage their own learning with self-discipline (Ginting et al., 2020). Winarti et al. (2022) also indicated that raising their awareness of the benefits of autonomous learning can help learners achieve their specific instructional goals, boost their self-esteem and promote lifelong learning. Given the major importance of self-directed learning (SDL) for online learners with its role in helping individuals to master the necessary skills to work autonomously and use all the opportunities of new technologies, many educators have given priority to and underlined the importance of Massive Open Online Courses (MOOCs), arguing that they have significantly expanded the SDL opportunities to all individuals only with an Internet access (Zhang et al, 2020). Therefore, SDL has been identified as a significant factor in MOOC success (Kop & Fournier, 2011). By the same token, as the covid-19 pandemic outbreak has forced universities around the world to move their educational activities onto online platforms, MOOCs have gained an urgent attention from higher education institutions and educators thanks to their capacity to make educational opportunities accessible to the masses.

In addition, there is enough evidence in the literature to suggest that learning online can be more effective than traditional face to face learning thanks to some factors such as self-paced learning, re-reading, re-watching, skipping, or accelerating through concepts, because e-learning requires 40-60% less time to learn than traditional classroom, and on average learners retain 25-60% more material when learning online compared to only 8-10% in a classroom (Li & Lalani, 2020). Also, given its critical advantage in terms of both cost-effectiveness and efficiency on the one hand, and the flexibility of scheduling and content delivery on the other, online learning may be a more practical option for some educational institutions in the years to come (Torres & Ortega-Dela Cruz, 2022). Hence, research on student SDL in MOOC has been the subject of considerable attention in the literature recently (Loizzo et al., 2017). There are, however, challenges to overcome, as "without guidelines of instructors, learners may be confused about what to do as well as overwhelmed by unexperienced responsibilities related to learning in MOOC learning environments" (Zhu, Bonk, & Doo, 2020, p. 2).

Research on SDL in MOOCs, therefore, would be of much benefit to the learners and institutions across the globe as "worldwide there are currently more than 1.2 billion children in 186 countries affected by school closures due to the pandemic" (Li & Lalani, 2020, para. 1). With this radical shift away from the traditional face-to-face classroom in many parts of the world, a major concern for the educators worldwide is whether the adoption of online learning will continue to persist post-pandemic. If the application of online learning continues to thrive beyond the pandemic, this could open the way for a paradigm shift in thinking about distance education and independent learning. How such a shift would impact the worldwide education regarding SDL in MOOCs is the main focus of the current study. The purpose is to find out students' readiness for MOOCs and their learner autonomy development in a MOOC learning environment based on the theoretical models of SDL. The study aims to further develop some relevant core skills of the online learners and provide them with more scope in managing their own learning by getting the full benefit of online learning.

The significance of this study lies in its selection of participants from future English language teachers, who have been enforced into remote learning in a MOOC learning environment due to the COVID-19 lockdown. They are studying in English Language Teaching (ELT) program, which aims to train highly qualified English as a foreign language (EFL) teacher. Given the increasing importance of online learning and its long-term effects in education, especially in the field of teacher education, research on learner autonomy in the field of foreign language learning could prove impactful and useful. However, Fournier, Kop, and Durand (2014) stated that although learning in MOOCs might seem thrilling, it could also be challenging to both learners and instructors as the control of learning is primarily in the hands of the student, but not the instructor. Thus, in view of the unique experience of the participants and the unusual nature of the study, and with a view to expanding capacity for teacher professional autonomy, the present research has focused more on autonomy in distance learning. Besides, given the major importance of autonomy for online learners, there is a need to "develop sophisticated but accessible means of understanding continuing professional learning more deeply" (Kennedy, 2014, p. 690). Hence, as there are scant studies on learner SDL in MOOCs, the current study is likely to offer valuable insights into the views of teacher educators on being in a better position to assess the concept of learner autonomy in MOOCs for post-COVID educational practices.

Self-Directed Learning (SDL)

The concept of SDL has undergone a thorough review and has been revised in response to globalization, recent technological developments and increasing digitalization. Generally associated with adult education, in most cases SDL is confused with self-regulated learning (SRL), which is a narrower and more specific concept (Loyens, Magda, & Rikers, 2008). While in SRL the creation, modification and management of the learning content and the setting of the learning task are usually performed by the teacher, in SDL this initiative is undertaken by the learner with or without the help of

others (Robertson, 2011).

SDL is mainly practiced outside traditional school environment, and thus students have more freedom to generate their own goals in an SDL environment, whereas SRL is mostly practiced in school environment, where the main concern is about the processes within task execution (Jossberger et al., 2010). Therefore, SDL has been described as a process through which individuals diagnose their learning needs, evaluate their learning process, develop their knowledge, assess self-learning outcomes, adapt material resources, examine their own work, implement personal learning projects, take the initiative themselves to identify a need for learning, and make adjustments if necessary (Knowles, 1975). Similarly, suggesting that a self-directed learner should be ready to complete learning independently, Jossberger et al. (2010) stated that for a learner to self-direct his own learning, he first needs to master the skill to self-regulate his own learning activities. This is because self-regulation provides students with ample scope for dealing with any complaints about learning difficulties as well as helping them develop effective strategies for solving academic coping strategies (Sinring et al., 2022). Garrison (1997) put forth three dimensions of SDL, which then became very popular: (1) self-management (task control); (2) self-monitoring (responsibility); and (3) motivation (desire for learning). According to Garrison, self-management is about external activities such as organizing learning resources and managing the learning process, whereas self-monitoring is related to cognitive processes, involving the ability to think about one's own learning strategies and taking responsibility for the construction of one's personal learning. As for the motivation dimension, Garrison points to one's enthusiasm for learning and the effort toward pursuing cognitive goals. The relationship between these three dimensions are important factors influencing autonomous learning in innovative learning environments like MOOCs, which are a form of distance learning.

Self-Directed Learning in MOOCs

SDL is also gaining importance in online settings. In fact, studies reveal that online courses can provide online learners with the opportunity to go their own way at their own pace, thus reaching their own goals (Zhu et al., 2020). However, given the complexity of the demands placed upon learners and the range of knowledge and skills that they are required to master, it is not surprising that in many kinds of distance learning, learners play a more demanding role than instructors (Hanif, 2020). Therefore, as psycho-social and cognitive factors such as metacognition, self-regulation and motivation have been shown to influence e-learning skills (Terras & Ramsay, 2015), SDL skills can play a constructive role in the process of negotiating content and learning methods in online learning platforms (Hartley & Bendixen, 2001). Having been a relatively recent evolution of distance education, MOOCs can provide conditions for the implementation of life-long learning principles as they are mostly free of admission prerequisites and fees (Ginting et al., 2020).

One of the main distinctive features of MOOCs is based on the notion of universality, which "makes it possible for a person's message to make its way around the globe to eventually end up back to the same person after being responded and commented by innumerable participants across borders" (Yaşar, 2020, p. 9). Being one of the modern forms of distance education, MOOCs have thus been argued, by Siemens and Downes (2008), to require learners to be autonomous given the fact that they promote remote and independent learning. They thought that the learners' success in MOOCs lies in their freedom in the search for new knowledge available to them from online and offline sources. Similarly, defined as the ability to take the responsibility of one's own learning, autonomy requires the learner to self-direct his/her own learning activities and task performances (Jossberger et al., 2010). Thus, MOOC students should adopt an autonomous attitude to achieve their learning goals and complete the course (Ginting et al., 2020; Yaşar & Polat, 2021).

Several relevant studies can be found in the literature on autonomy in distance education. For example, Morgan (2012) found that the young generation lacks autonomy to develop their full potential in using

Web 2.0 to enhance their learning despite their skills in using new technologies. He found that they still need explicit instruction to use the Internet as a learning tool. Kırmızı and Kıraç (2018) also found that online learners attach much importance to the presence of a teacher as a guide and organizer of their learning. In her study with 101 Taiwanese students, Lo (2010) also reported a similar result, suggesting that students were dependent on their teachers in terms of decision-making and self-management.

In their research, Rabe-Hemp et al. (2009) examined 283 college students' attitudes towards autonomous learning. They concluded that high achievers had a higher degree of autonomy when compared to low achievers. Petra et al. (2016) investigated the autonomous learning of students in Brunei by examining their engagement in a science subject. The results suggested that the learners could take responsibility, worked independently and collaboratively in teams, but with minimal teacher guidance. Ginting et al. (2020) examined learning autonomy among thirty-seven students enrolled in an Indonesian MOOC. The findings suggested that only a small percentage of the learners were genuinely autonomous.

As seen above, there are several relevant studies in the literature on learner autonomy in e-learning environments. However, these studies mostly focused on learners who personally preferred online learning environments. On the other hand, as the covid-19 pandemic has disrupted teaching in a variety of institutions across the world, these institutions were forced to implement online learning on a massive scale. Although MOOCs provide students with considerable support to set and meet individual learning targets, considering the uniqueness and unusual nature of the study, it remains to be seen how well these students will be able to meet the demand for the learner autonomy that is required by the MOOC-based learning. Thus, given the global impact of the covid-19 pandemic and the growth of MOOCs, it is crucial to improve our understanding of autonomous learning in MOOCs. Hence, based on the theoretical models of SDL, the current study investigates the autonomous learning attitudes of student teachers in a MOOC learning environment. To this end, the following research questions are addressed:

(1) What are student teachers' self-directed learning readiness for MOOCs based on their MOOC experiences?

(2) How do student teachers assess their self-directed learning readiness in a MOOC learning environment?

METHOD

Research Design

This study pursued an explanatory sequential mixed methods research design (Creswell & Plano Clark, 2017). This design was utilized so that the qualitative analysis could help explain the quantitative results to make further in-depth analysis and maintain complementarity. Descriptive statistics were performed for the quantitative part, while the qualitative statistics were conducted through thematic analyses. The results were connected to develop a clearer understanding of the findings obtained from both phases (Greene, Caracelli, & Graham, 1989).

Participants

The research population included 19 senior students (5 males and 14 females), between the ages of 22 and 25, in English Language Teaching (ELT) department at a state university in Turkey. The participants were selected using purposive sampling because, based on their unique experiences, they were assumed to possess and provide relevant and useful information to the research questions. They were student teachers, who were supposed to take the "English Language Testing and Evaluation"

course through face-to-face education in a traditional classroom in the spring semester of 2019-2020 academic year. The spring semester runs from the beginning of March to the middle of June.

Instrumentation

The quantitative data were collected using the Self-Directed Learning Readiness Scale (SDLRS), which was initially developed by Fisher and King (2010) and Williamson (2007), and then redesigned by Zhu et al. (2020) to measure SDL in MOOCs. The authors adapted the instrument to make it appropriate for MOOC learning environments. The SDLRS comprised items with three dimensions: self-management (9 items), motivation (8 items), and self-monitoring (9 items). The items were measured using a Likert scale from 1 (i.e., strongly disagree) to 5 (i.e., strongly agree). One item of the SDLRS (Item # 8) was negative, so it was reversed. The alpha coefficients (internal consistency according to Cronbach) were calculated for each item. The internal consistency coefficient of the SDLRS was .92, showing that the SDLRS is a reliable scale.

The collection of the qualitative data, on the other hand, involved an open-response questionnaire carried out to better understand students' readiness and perceptions of MOOCs and their autonomous learning development in a MOOC learning environment. The data were gathered via an online open-response questionnaire in accordance with a clearly defined study protocol.

Procedure

Participants in this study took the "English Language Testing and Evaluation" course in a traditional face-to-face classroom format for only four weeks, from March 1, 2020 to March 22, 2020. However, due to the COVID-19 lockdown, starting from the end of March up to the end of the spring semester of 2019-2020 academic year, the remaining ten weeks were adapted to suit online learning. Therefore, the participants were all required to complete two MOOCs successively. To this end, the participants, first, registered for a four-week online course, offered free on FutureLearn, with the title of "Language Assessment in the Classroom" (see Appendix B), developed by Cambridge Assessment English (FutureLearn, 2019). After completing this MOOC, they registered for another four-week online course, offered free on Coursera with the title of "Blended Language Learning: Design and Practice for Teachers" (see Appendix C), developed by University of Colorado Boulder (Coursera, 2019). The content of both MOOCs (see Appendix D & Appendix E) was in line with the "English Language Testing and Evaluation" course, which they were supposed to take in a traditional face-to-face course format, so it was integrated with the online course curriculum.

An independent learning based on the theoretical models of SDL took place during the eight-week course period in a MOOC learning environment. The online courses required between 3 to 6 hours of self-study weekly, involving a high level of learner autonomy. Learners were offered opportunities to take charge of their own learning by choosing objectives, content, tasks, activities, and even forms of assessment, which were all consistent with theoretical models of SDL. However, to track their progress, the instructor required them to share their course work and written reflections on their experiences weekly on the Open Moodle Platform of the institution after each week over the eight-week duration of the MOOCs. The complementary online face-to-face sessions were conducted by one of the researchers of this study. The learners were assigned to make a self-evaluation of their knowledge and submit their weekly reports on their learning outcomes on the Open Moodle Platform. During the online face-to-face sessions, which lasted around one hour each week, the students were asked for their assessment of their study program. They were also asked to discuss in groups and take a stand on the issues they covered in the MOOCs.

As for the data collection procedures, prior to the collection and subsequent processing of the data, respondents were well informed of the quantitative and qualitative procedures as well as the objective

of the research. They were assured about the anonymity of their responses and that the data would only be utilized for statistical and scientific purposes. After the research and research activities were fully described to the participants, their oral consent to participate in the research was obtained.

For quantitative approach, upon the completion of the totally eight-week two online courses, an online survey was distributed to all participants who were enrolled in both MOOCs during the semester. The scale was administered online, and it was based on their MOOC learning experience.

As for the qualitative part of the study, all participants in the virtual classroom were invited for synchronous, interactive, live-online interviews, or possibly for a telephone interview. Eight of the students agreed. However, they said they would prefer written questionnaires to synchronous interviews as they might not afford the time required for long interview sessions. They also said they wanted to elaborate on their replies without internet quota restrictions. Hence, the interviews were conducted asynchronously via an open-response questionnaire. The answers were given a guarantee of anonymity. Interview questions were sent to the recipients via email. The items of the open-response questionnaire (see Appendix A) were prepared, following Heigham and Croker's (2009) guidelines to produce interview questions and the development of high-quality qualitative research. Additional questions were included to clarify or to follow up the answers given by the respondents. The reliability of the interview questions was also proven by two outside experts. As the information was saturated and no new insights were gained with regard to the data analysis process, only one open-response questionnaire was sent to each respondent. However, member checking was used to maintain credibility, assess results, and correct errors.

To clarify the quantitative findings and develop them further, the qualitative data were gathered after the quantitative data were collected and analysed. Then, the results were connected to gain a deeper understanding of the findings that were drawn from both sources.

Data Analysis

The quantitative data were analysed using descriptive statistics for each item. Comparisons between the proportion of the three dimensions (self-management, motivation, and self-monitoring) of the SDLRS were also conducted using descriptive statistics via SPSS software.

The qualitative data, on the other hand, were analyzed using thematic analysis thanks to its clarity in organizing and interpreting data (Braun & Clarke, 2006). An inductive approach was adopted to identify the themes within the data to make sure that the identified themes were closely related to the data (Saldaña, 2021).

To this end, in the early stages, the data collected through open response questionnaires were read repeatedly by the two researchers to generate initial codes. The researchers examined and processed participants' responses separately to ensure inter-coder reliability. After codes were collected under potential themes, the researchers met online on Zoom to negotiate the emergent themes. To maximize the rigor of their analyses and refine the details of each theme, they had a couple of online meetings. After naming and clearly defining the common themes, one of the researchers organized joint feedback sessions with several respondents (n = 6) who volunteered to discuss their responses, negotiate the emerging themes, and review the findings for accuracy. During this iterative process promoted by Yin (2003), participants' views were noted by the researcher. Then, based on these member checking sessions, the data were analyzed for the last time and some themes were reformulated by the two researchers through a joint online meeting.

In the end, as suggested by LeCompte (2000), the results of the final analysis were checked, and some fine adjustments were made by the two researchers to make sure that the analyses were responsive to the research questions. The themes that emerged from the qualitative data analysis were used to

triangulate the data from the quantitative inquiry. They were also used to support and develop a comprehensive understanding of the findings from the quantitative component of the study.

FINDINGS

Quantitative Findings

Research Question 1: What is student teachers' self-directed learning readiness for MOOCs based on their MOOC experiences?

Quantitative data were used to answer the first research question based on the three dimensions of SDL. Thus, three indicators of autonomy; namely, self-management, motivation, and self-monitoring were examined using descriptive statistics. Table 1 summarizes the descriptive statistics of each dimension. Descriptive data collected on a 5-point Likert scale revealed that the average score of self-monitoring ($M = 4.09$, $SD = 0.64$) was higher than the other two variables; namely, learning motivation ($M = 3.91$, $SD = 0.48$) and self-management ($M = 3.74$, $SD = 0.79$). Overall, these findings show student teachers' high level of readiness to embrace self-directed learning in a MOOC learning environment. However, the relationship among self-regulated learning factors needs to be further analyzed and interpreted in the qualitative phase of the study.

Tablo 1

Descriptive statistics of SDLRS in accordance with three dimensions

Dimensions	Min.	Max.	M	SD	N of items
Self-management	1,89	4,78	3,74	0,79	9
Motivation	2,88	4,50	3,91	0,48	8
Self-monitoring	2,78	5,00	4,09	0,64	9

N = 19

Descriptive statistics were also calculated for each item to explore the autonomous learning attitudes of the students and their self-directed learning readiness for MOOCs. The data were statistically categorized under three dimensions.

As indicated in Table 2, analysis from Self-management dimension shows that all items got more than an average score, suggesting students' willingness and ability to manage their own learning and task control. For example, Item 9 "I am confident in my ability to search for information related to learning content in this MOOC" ($M = 4.26$, $SD = 0.73$), together with Item 2 "I am self-disciplined while learning in this MOOC" ($M = 4.00$, $SD = 1.15$) and Item 3 "I have good management skills (e.g., time, learning resources, etc.) in this MOOC" ($M = 3.95$, $SD = 0.97$) received the highest scores from the participants. These findings indicate that students can take initiatives to plan and manage their workload and cope with the multiple tasks. The findings also reveal that students can explore different learning alternatives in MOOCs, which allows for an accurate analysis of situations and, as a result, better decision-making. Lastly, although it received the lowest scores from the respondents, Item 5 "I set strict time frames for learning in this MOOC" ($M = 2.95$, $SD = 1.02$) shows that the participants enjoyed the opportunity for flexible, self-paced, and autonomous computer-mediated learning in the MOOC.

Tablo 3
Self-management dimension

N	Items	Mean	SD
1	I prefer to plan my own learning in this MOOC	3,63	0,90
2	I am self-disciplined while learning in this MOOC	4,00	1,15
3	I have good management skills (e.g., time, learning resources, etc.) in this MOOC	3,95	0,97
4	I set specific times to study in this MOOC	3,47	1,47
5	I set strict time frames for learning in this MOOC	2,95	1,03
6	I am able to keep my learning routine in this MOOC separate from my other commitments	3,68	1,11
7	I can apply a variety of learning strategies in this MOOC	3,79	1,13
8	I am disorganized while learning in this MOOC	3,95	1,27
9	I am confident in my ability to search for information related to learning content in this MOOC	4,26	0,73

As evidenced in the items in Table 3, the Motivation dimension is rated high among MOOC participants. They seem to have the motivation to maintain the effort toward learning in the MOOC. Item 12 "I enjoy learning new information through this MOOC" ($M = 4.53$, $SD = 0.61$) and Item 11 "I want to learn new information through this MOOC" ($M = 4.42$, $SD = 0.90$) received the highest scores, suggesting that the MOOC helped stimulate the desire for learning as they seem to be highly motivated and eager to learn new things in the MOOC.

Tablo 3
Motivation dimension

N	Items	Mean	SD
10	I have a need to learn from this MOOC	3,79	0,79
11	I want to learn new information through this MOOC	4,42	0,90
12	I enjoy learning new information through this MOOC	4,53	0,61
13	I enjoy the various challenges of this MOOC	3,84	0,96
14	I critically evaluate new ideas in this MOOC	3,79	0,98
15	I need to know the deeper reasons of the facts in this MOOC	3,42	0,69
16	I learn from my mistakes in this MOOC	3,89	0,81
17	When presented with a problem I cannot resolve, I will ask for assistance through different means provided by this MOOC	3,63	0,90

As for the Self-monitoring dimension, it is rated the highest among the participants. As shown in Table 4, this could show that MOOC learners are cognitively aware of their own learning. They also seem to have developed the ability to identify their strengths and weaknesses and monitor their own learning strategies. For example, two items with the highest scores, Item 18 "I am responsible for my own learning in this MOOC" ($M = 4.47$, $SD = 0.96$) and Item 19 "I am in control of my learning in this MOOC" ($M = 4.42$, $SD = 0.69$) provide enough evidence to suggest that MOOC learners seem to have taken on the responsibility to construct their own learning.

Tablo 4
Self-monitoring dimension

N	Items	Mean	SD
18	I am responsible for my own learning in this MOOC	4,47	0,96
19	I am in control of my learning in this MOOC	4,42	0,69
20	I have high learning standards when I take this MOOC	3,68	0,82
21	I prefer to set my own learning goals in this MOOC	3,63	1,21
22	I evaluate my own performance in this MOOC	4,00	1,00
23	I have high beliefs in my learning abilities in this MOOC	3,95	0,85
24	I can find information related to learning content for myself when I take this MOOC	4,21	0,79
25	I am able to focus on answering or solving a problem in this MOOC	4,16	0,90
26	I am aware of my own limitations when I take this MOOC	4,26	0,56

All in all, every item in SDLRS seems to support the results of the three dimensions of the scale, suggesting student teachers' high level of readiness to embrace self-directed learning in a MOOC learning environment. Descriptive statistics also show that the participants are genuinely autonomous in the MOOC learning environment.

Qualitative Findings

The qualitative findings were meant to provide a better understanding of the quantitative findings and to investigate the second research question below:

Research Question 2: How do student teachers assess their self-directed learning readiness in a MOOC learning environment?

The qualitative analysis resulted in the following two themes: external validation and participative learning. The findings are presented below.

External validation

When participants were asked how they assess their self-directed learning readiness in a MOOC and whether they need an external support to manage their learning process, they mostly stated that the content and the methodology of the MOOCs enabled them to activate their own potential through the mutual exchange of knowledge and ongoing critical feedback. Another component participants evaluated when judging their self-directed learning readiness in a MOOC was the learning and implementation process. They indicated that they feel empowered to be able to detect their own learning needs and self-manage their own learning processes through the feedback discussions in MOOCs, which helped them recognize their own potential, evaluate learning outcomes, and achieve greater self-confidence through the support of other learners and their self-reflections. Participant 1, for instance, said that "While answering questions in MOOCs, you can see what you have learned well or what you have missing. I also assess myself while commenting on discussion part. I read other comments and learn their opinions. This way, I receive feedback." However, they also emphasized that although it contributes to the learning curve, the self-evaluation process by itself cannot enhance self-learning. Rather, it can provide the impetus for an 'external validation'. For example, Participant 6 commented that "Actually, I am autonomous. I can learn the subject on my own, but I might overlook some of the things. Thus, external sources such as professors and teacher are better." Participant 2 agreed, stating that "No matter how much I improve myself on online platforms (MOOCs), there will of course be some points that I missed. So, I need to get feedback from an objective and more knowledgeable external source than me." It seems that MOOCs can provide learners with diverse learning opportunities, empower them to manage their own learning, and allow them to experiment with new behavioral patterns through a free learning atmosphere. However, it is important to note that

external validation from external experts (e.g., instructor, professor), i.e., validation of formal learning, also has a great influence on students' learning, especially in consideration of their self-efficacy beliefs.

Participative learning.

When students were asked how they assessed the value of motivation in relation to their self-directed learning readiness in a MOOC learning environment and what motivates them participate in a MOOC, they mostly stated that seeking challenges through new tasks, learning from others through volunteerism, seeking varied experiences, updating knowledge, and developing new skills are some factors that are key to sustaining motivation in MOOCs. For instance, Participant 5 commented that "Exchanging ideas with people from another country, chatting with them about a subject, reading their comments and writing our own ideas as comments in the comments section motivates me to participate in the MOOC." They also mentioned that, in the sense of participative learning, MOOCs were effective in helping them reflect on their own learning requirements and take greater responsibility for their own learning. Participant 7 highlighted that "I liked the interaction with other participants and educators. That is, I wondered educators' comments for my comments. Those were motivating for me." Participant 4 also said "I felt more motivated while doing the activities. Mainly because of all the interaction whenever I came back to the website, I would get notifications about people liking and replying to the comments I made." Participant 8 also indicated that "People were actually giving their time and opinions to me, and not only the people but the instructors there as well. That was the most motivating part of this whole ordeal in my opinion." Some participants, on the other hand, referred to the course requirements that must be completed to pass the course, which also seems to have played a major role in ensuring participants' participation in the MOOCs, as Participant 3 put it, "I was motivated by lesson requirements at first, but later I was more open to use it without a requirement for any lesson." All in all, the findings reveal that together with a sense of duty such as meeting the course requirements, participative learning, which is provided amply in the MOOCs, also seems to have influenced participants' decision-making and learning processes considerably. In summary, participative learning in MOOCs helps students develop reflectivity and self-determination by sustaining motivation, which supports their independent and self-directed learning.

Connecting the Quantitative and Qualitative Findings

Overall, the qualitative results support the quantitative findings, suggesting student teachers' high level of readiness to embrace self-directed learning in a MOOC learning environment. The qualitative component sheds additional light on the quantitative component by providing in-depth insights on various aspects of participants' self-directed learning readiness for MOOCs. Qualitative findings also showed that students are genuinely autonomous in the MOOC learning environment because MOOCs sustain motivation for learning, increase their self-confidence, and help them develop their own competencies by offering them full access to relevant information.

In addition, the findings from the qualitative phase revealed that through participative learning practices, MOOCs can encourage autonomous learning and provide learners with plenty of opportunities to try out different learning strategies. Qualitative findings also revealed that MOOC learners are equipped with skills that help them acquire new knowledge independently. These qualitative results align with the quantitative findings based on the three dimensions of self-directed learning, i.e., three indicators of autonomy; namely, self-management, motivation, and self-monitoring. One further aspect that emerged in the qualitative data was students aspire for external validation from external experts, which can provide key impetus for autonomy of online learners and their self-directed learning readiness for MOOCs.

DISCUSSION

The study showed that student teachers had a high level of readiness for self-directed learning in a MOOC, suggesting that they are genuinely autonomous in the MOOC learning environment. This finding is contrary to previous studies which have suggested that MOOC learners lack autonomy to take responsibility for their own learning (Ginting et al., 2020; Morgan, 2012). This rather surprising result may be related to the continuous challenge of the covid-19 pandemic for steady learning on a high level of coordination. Another possible explanation for this result is that the global health challenge might have additionally motivated learning and facilitated a higher level of concentration among the MOOC users. Similarly, this health challenge could have transformed them into autonomous learners by allowing them to build upon their achievements and acquire key skills, resulting from their self-learning pathways when moving towards facilitating learning (Winarti et al., 2022). These results are in line with the ideas of Siemens and Downes (2008), who argued that MOOCs require learners to be autonomous given the fact that they promote remote and independent learning.

With regard, more specifically, to the self-regulated learning dimensions, the current study showed that student teachers had high levels of self-management skills, higher levels of motivation for learning, and self-monitoring skills with the highest levels of skills in a MOOC. These findings suggest that students can assume the responsibility to organize their learning process and manage their learning resources without the supervision of instructors in a MOOC learning environment. These results do not support some of the previous research which found that online learners were dependent on their teachers in terms of decision-making and self-management (Kırmızı & Kıraç, 2018; Lo, 2010). The results, however, are partly in agreement with those of Petra et al. (2016) and Rabe-Hemp et al. (2009), who found that students could take responsibility and work independently, but with minimal teacher guidance. Sinring et al. (2022) also suggested that pursuing a variety of learning pathways could help learners acquire individual coping strategies. Hence, these results may be explained by the fact that the course requirements regarding the completion of the MOOC to pass the course fostered individual responsibility and facilitated self-learning, thereby making it possible to work independently.

The current study also revealed that MOOCs motivate students to take ownership of their learning and realize cognitive goals through participative learning practices, which help them build their self-confidence. This is partly in line with Hanif's (2020) argument that as online learners are required to independently process learning contents with less support by tutors, they need to empower themselves to develop their full potential so that they can meet more demanding goals, which helps them develop their self-confidence. These findings seem to be consistent with other studies, which found that MOOCs have significantly expanded the SDL opportunities to all individuals only with an Internet access (Yaşar, 2020; Zhang et al., 2020). A possible explanation for this result might be that the participative learning practices in the MOOC could have played a central role in promoting students' curiosity and independence, thereby stimulating their desire for learning. As they seem to be highly motivated and eager to learn new things in the MOOC, another possible explanation for this result could be that the MOOC encouraged engagement at a deeper level based on exchange of information and sharing of experiences. This has been identified as a significant factor in MOOC success (Kop & Fournier, 2011).

Finally, the present study found that as part of the implementation of self-regulated learning and a critical component of self-directed learning, MOOC learners can successfully engage in self-monitoring activities such as self-evaluation of their learning process, self-control of thought, and self-determination of cognitive and metacognitive processes. These findings are contrary to previous studies which have suggested that students might get confused and feel overwhelmed by a wide range

of learning materials and all the stuff that comes out of the MOOCs (Fournier et al., 2014; Zhu et al., 2020). These unexpected results could be attributed to the heightened awareness among students about the necessity of more autonomous, and therefore more independent learning due to the outbreak of the global coronavirus pandemic. Besides, the current study showed that external validation from external experts can give an additional impetus to the further improvement of students' cognitive skills to make them more independent and give them self-confidence. Their instructor's external validation and systematic monitoring might have ensured students' continuous participation in the MOOC, thereby providing a powerful impetus for them to invest in autonomous learning.

CONCLUSIONS AND IMPLICATIONS

The current study aimed to explore the autonomous learning attitudes of student teachers in a MOOC learning environment and their self-directed learning readiness for MOOCs. In contrast to the previous research, the results surprisingly showed that they are genuinely autonomous in the MOOC learning environment, and they have high levels of self-directed learning skills, i.e., three indicators of autonomy; namely, self-management, motivation, and self-monitoring. It is most likely that the continuous challenge of the covid-19 pandemic raised the awareness of the students about the importance of independent and steady learning. Similarly, the global health challenge, which has forced educational institutions across the world to move their educational activities onto online platforms due to the covid-19 lockdown, might have additionally motivated the student teachers to be more self-aware and more critical of their own learning, and thus raised their awareness about the necessity of autonomous learning. It is clear that this experience has made them more self-reflecting, creative, and autonomous learners. This outcome should be taken into consideration if MOOCs are intended as a complement to traditional face-to-face instruction or as a replacement for traditional teaching especially in higher education.

Given the growing recognition of the need to encourage learner autonomy and the increasing importance of online learning, one obvious implication of the present study could be the fact that it has sketched the potential of MOOCs to promote participative and student-centred learning that fosters learner autonomy. Considering schools' transition to online learning due to the covid-19 lockdown and the increasing need to expand capacity for teacher professional autonomy, the findings of the current study are likely to offer valuable insights into the views of teacher educators specifically and policymakers generally, on being in a better position to assess the concept of learner autonomy in MOOCs for post-covid educational practices. Finally, as suggested by Torres and Ortega-Dela Cruz (2022), thanks to their notable contribution to promoting learner autonomy and their flexibility of content delivery, online learning and specifically MOOCs could be a more practical option for some educational institutions in the years to come. Hence, they may become part of the educational policy agenda.

LIMITATIONS AND SUGGESTIONS

A key strength of the present study was its selection of its participants from students who have been enforced into remote learning in a MOOC due to the covid-19 lockdown all around the world. This unique situation has provided a unique chance to create unexpected experiences in a MOOC and see its potential to promote autonomous learning based on the theoretical models of SDL. However, the study had several major limitations. First, the small sample size, a total of 19 participants, could create limited statistical power. Therefore, the results may not be applicable to a wider population. Second, the purposive sampling used in this study adds further caution regarding the generalizability of the findings. A random sampling method would increase the precision of the findings. Finally, some other qualitative data collection methods such as in-depth interviews and direct observation could enhance the reliability of the findings.

In terms of directions for future research, further studies could focus on measuring the achievement of MOOC users. Second, further studies need to be carried out to explore the potential use of MOOCs as a complement to traditional face-to-face instruction. Third, more studies regarding the perceptions of instructors about students' MOOC-related SDL skills would be worthwhile. Fourth, more studies need to be carried out in order to validate the impact of MOOCs in enhancing learner autonomy. Finally, further modelling work will have to be conducted in order to explore various stakeholders' perceptions about the possibility of using MOOCs as a replacement for traditional teaching.

DISCLOSURE STATEMENT

The authors declare that there is no conflict of interest.

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Appendix A

Open-Response Questionnaire
1. Based on your experience on MOOCs, do you think you can learn **on your own** only by engaging in the learning process or the online community in MOOCs, or would you still need an instructor on a face-to face classroom instruction to learn the subjects that you studied on MOOCs?
2. Based on your experience on MOOCs, do you think you can control your own learning **(self-management)**, or would you need an external support to manage your learning process?
3. Based on your experience on MOOCs, do you think you can monitor your own learning, that is can you construct or keep track of your personal learning without the help of any external support? **(Self-monitoring)**
4. Based on your experience on MOOCs, do you think you can give yourself internal feedback like the feedback you get from external sources? **(Self-monitoring)**
5. Based on your experience on MOOCs, what motivates you to decide to participate in a task or activity on MOOC? **(entering motivation)**
6. Based on your experience on MOOCs, what factors make you lose your motivation to participate in a task or activity on MOOC? **(entering motivation)**
7. Based on your experience on MOOCs, what motivates you to maintain, continue, persist, or stay on a task or activity on MOOC? **(task motivation)**
8. Based on your experience on MOOCs, what factors make you lose your motivation to maintain, continue, persist, or stay on a task or activity on MOOC? **(task motivation)**
9. You know this term there was an extraordinary situation due to Coronavirus (COVID-19) outbreak, and we all had to alter our routines and change our learning mode. We moved from traditional face-to-face classroom-based learning to mostly MOOC-based online learning. Taking your MOOC-based online learning, which was supported by DYS system into account, would you prefer to have all your learning this way, or would you like to have face-to-face classroom instruction? Please share your thoughts about this with us?
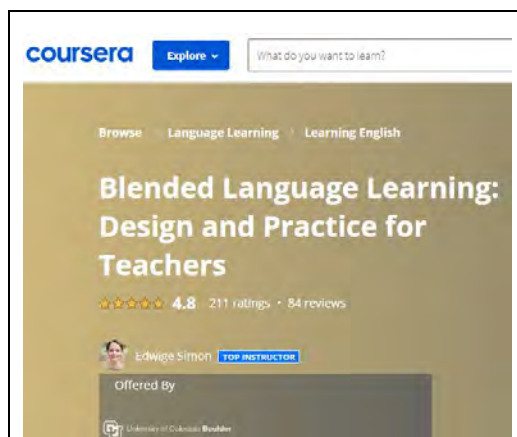10. Would you like to add anything more about your experience on MOOCs?

Appendix B

FutureLearn MOOC

Appendix C

Coursera

Appendix D

Topics of Language Assessment in the Classroom FutureLearn MOOC

Week 1	Week 2
Assessing speaking and writing	Assessing reading and listening
1.1.Welcome!	2.1.Introduction to receptive skills
1.2.How can assessment help teachers?	2.2.What is reading?
1.3.Assessing speaking	2.3.Assessing reading
1.4.Assessing writing	2.4.Developing a reading test
1.5.End of week 1	2.5.What is listening?
	2.6.Assessing listening
	2.7.Let's talk about scoring...
	2.8.End of Week 2
Week 3	Week 4
Assessing vocabulary and grammar	Test development
3.1.Introduction	4.1.Assessment and course planning
3.2.Assessing vocabulary	4.2.Test Design
3.3.Assessing grammar	4.3.Test evaluation
3.4.Task types	4.4.End of week 4
3.5.End of Week 3	

Appendix E

Topics of Blended Language Learning: Design and Practice for Teachers Coursera MOOC

Week 1	Week 2
Blended Language Learning: Definitions, Benefits, Challenges, and Effectiveness	Building a Blended Language Course (Course Level Considerations)
1.1.Introduction to the Course	2.1.Introduction and Objectives
1.2.How can assessment help teachers?	2.2.Choosing a Blended Format
1.3.What is Blended Learning?	2.3.Organization Strategies for Blended Language Course Design
1.4.How did Blended Learning Start?	2.4.The Role of the LMS
1.5.1 reading	2.5.1 reading
1.6.1 practice exercise	2.6.Designing a Blended Syllabus
	2.7.3 practice exercises
Week 3	Week 4
Building a Blended Learning Course (Unit Level Considerations)	Teaching Strategies, Optional Peer-Reviewed Assignment, and GRTE Registration
3.1.Introduction and Objectives	4.1.Introduction and Objectives
3.2.Presenting Content Online	4.2.Preparing Students for Blended Language Learning
3.3.Blended Interpersonal Activities	4.3.Establishing Social, Teaching, and Cognitive Presence
3.4.Blended Interpretive Activities	4.4.Feedback and Grading
3.5.Blended Presentational Activities	4.5.Benefits and Challenges of Synchronous and Asynchronous Speaking Activities
3.6.Blended Language Learning Assessments	4.6.Academic Honesty
	4.7.Evaluating a Blended Course