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Learners' satisfaction of courses on Coursera as a massive open online course platform: A case study

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Online education has become more prevalent in the 21st century, especially after the COVID-19 pandemic. One of the major trends is the learning via Massive Open Online Courses (MOOCs), which is increasingly present at many universities around the world these days. In these courses, learners interact with the pre-designed materials and study everything mostly by themselves. Therefore, gaining insights into their satisfaction of such courses is vitally important to improve their learning experiences and performances. However, previous studies primarily focused on factors that affected learners' satisfaction, not on how and what the satisfaction was. Moreover, past research mainly employed the narrative reviews posted on MOOC platforms; very few utilized survey and interview data obtained directly from MOOC users. The present study aims to fill in such gaps by employing a mixed-methods approach including a survey design and semi-structured interviews with the participation of 120 students, who were taking academic writing courses on Coursera (one of the world-leading MOOC platforms), at a private university in Vietnam. Results from both quantitative and qualitative data showed that the overall satisfaction of courses on Coursera was relatively low. Furthermore, most learners were not satisfied with their learning experience on the platform, primarily due to inappropriate assessment, lack of support, and interaction with teachers as well as improper plagiarism check. In addition, there were moderate correlations between students' satisfaction and their perceived usefulness of Coursera courses. Pedagogically, teachers' feedback and grading, faster support from course designers as well as easier-to-use plagiarism checking tools are needed to secure learners' satisfaction of MOOCs.

KEYWORDS

MOOC, online learning, Coursera, satisfaction, Vietnam

1. Introduction

Conventional classrooms with the presence of teachers, students, materials, and supportive technological tools, such as projectors, TVs, laptops, and Internet access have existed for many decades, being the norm of modern education. However, the outbreaks of COVID-19 in 2019 almost changed everything when learning was forced to be performed

online, primarily depending on virtual meetings *via* Google Meet, Microsoft Team, and Zoom, due to strict lockdowns all over the world. This phenomenon has attracted attention of many researchers, inspiring them to conduct studies on COVID-19 and online education (e.g., Cao et al., 2020; Jacques et al., 2020; Zhai and Du, 2020; Pham, 2022). In these virtual classrooms, there is real-time and direct interaction between teachers and students, albeit not as much as the offline model (Zimmerman, 2012; Pham, 2022). Nonetheless, students still have to follow the school's schedules, not being able to learn at their own speed or according to their own time. Another way of online learning, which should be seen as a supplement to rather than a replacement of virtual classrooms, is to adopt the MOOC platform, known as Massive Open Online Courses. In these courses, learners are provided with educational packages, such as pre-recorded videos, pre-designed materials, and questions, and pre-made quizzes. In other words, they are able to get access to the lessons almost at any time and complete them at their own speed. A growing body of research on MOOCs has been carried out during the past decade (e.g., Al-Rahmi et al., 2019; Luo and Ye, 2021; Chong et al., 2022; Ding and Shen, 2022).

One of the most popular types of MOOCs is Coursera, a platform with more than 107 million users worldwide that provides thousands of courses, designed by more than 275 leading universities, about various fields, such as business, technology, linguistics, psychology, research, and health (About Coursera, 2022). Despite its popularity and importance, scholarship on Coursera courses is still limited. Past studies mostly dealt with surveys and interviews with professors or course designers (Tong and Jia, 2017; Creelman and Ossiannilsson, 2014). A growing body of research has attempted to examine learners' perceptions, particularly satisfaction, of courses on Coursera (e.g., Gameel, 2017; Haba and Dastane, 2019; Rääf et al., 2021; Du, 2022). However, these authors primarily explored the factors that affected learners' satisfaction of MOOCs, not focusing on the level of learners' satisfaction as well as what the satisfaction was about. As learners study the pre-designed materials on MOOCs by themselves, it is crucial to further explore their satisfaction of these online courses to help improve their learning experiences and performances.

Another drawback in past research is that data analyzed in most works were the reviews or feedback that learners provided on Coursera at the end of each online course (e.g., Haba and Dastane, 2019; Rääf et al., 2021; Du, 2022). In other words, the authors did not perform real surveys or interviews directly with the users. This could be because having access to these users' contact information and getting their permissions for research purposes were not an easy task. The narrative comments that were employed in past research might be inadequate as they were relatively short and usually not insightful enough. The authors could not ask any further questions to validate the obtained information. Such comments, therefore, might not fully reflect how learners felt or what learners truly thought. This necessitates further research that employs direct communication with users taking courses on Coursera.

2. Literature review

2.1. MOOCs and Coursera

Massive Open Online Courses, or MOOCs, were originally presented in 2008 and have become a popular tool of education ever since. The phrase was created by Stephen Downes and George Siemens in 2013 to describe a learning platform in which students, irrespective of where they are, can participate as long as they have a device with Internet access. Specifically, Kim (2016) added the following to the function of MOOCs: "MOOCs are new types of e-learning class, which consists of short video lectures, computer-graded tests, and online discussion forums." MOOCs have played an integral part in education as they have provided students with a wide array of online courses (Johnson et al., 2016). The rich diversity of courses can provide learners with various skills and knowledge in different fields, which might equip them with future skills such as focus and openness to novelty, value creation, and effective communication (Jardim, 2021) that are needed for their careers.

Offering learners high-quality courses, either free or paid, that are designed by lecturers from many leading universities in the world, such as Stanford University (the United States), Yale University (the United States), or even Google, Coursera is considered as one of the most prominent types of MOOCs. A typical course on Coursera includes video lecturers, discussion questions, extra reading materials, peer-graded assignments, quizzes, and projects. Learners can finish the lessons at their own speed and at their convenient time, but there are deadlines for each assignment or quiz. Upon completion of a course, they are awarded a certificate which they can download or share with others (About Coursera, 2022). Another notable point about Coursera is that learners do not have any direct interaction with teachers or other course takers, which means that they mostly learn by themselves.

2.2. Past studies on learners' perspectives of MOOCs

As the main audience of MOOCs, learners' perceptions play a vitally important role in the success as well as the quality assurance of these courses (Luo and Ye, 2021). Despite this, most previous studies primarily consulted professors and course designers *via* interviews and surveys (Creelman and Ossiannilsson, 2014; Tong and Jia, 2017). Learners' voices were largely neglected in research on MOOC quality (Luo and Ye, 2021). This could be problematic because experts' views and course takers' could be different (Stracke et al., 2018). Therefore, it is essential that learners' perspectives, particularly satisfaction, be taken into careful consideration when addressing the quality measurement of MOOCs.

Several studies have attempted to explore learners' satisfaction of online courses on platforms such as Coursera; however, they

mostly focused on factors affecting the satisfaction of these users (e.g., [Gameel, 2017](#); [Du, 2022](#)). In a study [Gameel \(2017\)](#), the author collected narrative reviews from 1,786 users in four MOOCs. *Via* the employment of various models, Gameel concluded that learner-content interaction, perceived usefulness, and teaching-learning aspects were the most influential factors while learner-learner and learner-instructor interaction did not have any significant impact. In his research, [Du \(2022\)](#) used the topic sentiment analysis and linear modeling to analyze the narrative reviews. The results showed that six elements influencing learners' satisfaction of MOOCs were videos, instructors, contents, evaluations, workloads, schedules, and completion. However, [Du \(2022\)](#) also found that perceived difficulty and interaction were not important factors.

In 2019, Habab and Dastane investigated learners' preferences and experiences of MOOCs, particularly the two famous platforms edX and Coursera. The authors collected 572 reviews on the two systems in a random manner. Adopting the thematic analysis based on an eight-dimension framework including experience, diversification, support, pedagogy, quality, ease of use, convenience, and finance, Habab and Dastane found that monetary and diversification aspects did not belong to MOOCs adaptation and continuous use of MOOCs while the others did. However, this study was performed using reviews on Coursera and edX, so learners' preferences of Coursera alone remained unclear. Similarly, in 2022, [Räaf and Knöös](#) selected and analyzed 28,281 reviews of learners in five Coursera courses about data science. Thematic analysis of the data generated nine major topics: assessment, learning experience, video materials, tools, delivery, content, instructor skills, course providers, and teaching styles.

Nevertheless, these studies only utilized the reviews of learners on the MOOC platforms, not performing any interviews or questionnaires directly with the users yet. This rendered the findings not very insightful because learners' feedback on Coursera was usually not written in a detailed manner. Moreover, these bodies of research mainly grouped Coursera users' reviews into categories, still with a few clear differences. Also, these works did not address learners' level of satisfaction of MOOCs. In other words, whether learners, in general, are satisfied with MOOCs or not remains unclear. Furthermore, what learners are most satisfied or dissatisfied with is still unanswered, which warrants further exploration.

2.3. Theoretical frameworks

The frameworks employed in the present study ABC Model ([Ostrom, 1969](#)) and the common categories made by [Räaf et al. \(2021\)](#) as well as by [Habab and Dastane \(2019\)](#).

The ABC Model of Attitudes of [Ostrom \(1969\)](#) includes three primary elements: affective, behavioral, and cognitive. While the affective dimension refers to learners' emotions and feelings toward an activity or a task, the behavioral factor is related to how they respond or react to an event or a situation. As for the

cognitive aspect, it is characterized as learners' knowledge and skills obtained from a given task or activity. [Bloom \(1956\)](#) as well as [Anderson and Krathwohl \(2001\)](#) ranked a learner's cognition into six levels from understanding to creating. The three components (affective, behavioral, and cognitive) were used as the main themes (observed variables) while the common categories from [Räaf et al. \(2021\)](#) as well as [Habab and Dastane \(2019\)](#) were treated as the items in each theme (latent variables). The employed categories included assessment, video materials, support, pedagogy, ease of use, and tools, which are also similar to the findings of [Gameel \(2017\)](#) and [Du \(2022\)](#).

In brief, the literature review already highlighted several gaps in previous research regarding how learners viewed Coursera courses. Therefore, this study aimed to fill in such deficiencies by exploring Coursera users' satisfaction of courses on this platform *via* direct interviews and questionnaires based on model of [Ostrom \(1969\)](#) in combination with the pre-defined categories ([Habab and Dastane, 2019](#); [Räaf et al., 2021](#)).

Consequently, the following research questions were formed:

1. To what extent are learners satisfied with courses on Coursera as a MOOC platform?
2. What are the correlations between learners' satisfaction and the three domains in the ABC Model (affective, behavioral, and cognitive)?
3. What are learners satisfied or dissatisfied with the most regarding courses on Coursera as a MOOC platform?

It is necessary to conduct this study for a number of reasons. First, it can contribute further to the literature of MOOCs, Coursera, and learners' views, shedding light on the relationships between these aspects. Second, learners have the opportunity to voice their opinions and see to what extent their views match with others'. Finally, it gives insights into what Coursera and content designers need to do to make their courses better, benefiting more than 100 million users of the platform.

3. Methodology

3.1. Research design and instruments

The present study adopted a mixed-methods approach to gain insights into learners' perspectives on Coursera courses. According to [Creswell and Creswell \(2017\)](#), although being time-consuming and challenging due to its complexity, this approach helps minimize the disadvantages and utilize the advantages of both quantitative and qualitative data. To be precise, while the quantitative approach is used for explaining an issue or phenomenon through data collected in numerical form, the qualitative approach can gain in-depth information about human feelings, intentions, experiences, and contexts ([O'Dwyer and Bernauer, 2013](#)). The instrument used to collect the quantitative data was a questionnaire (survey design) while

semi-structured interviews were employed to obtain qualitative information.

The survey design provides a quantitative or numerical description of population trends and attitudes (Creswell and Creswell, 2017). The first and foremost advantage of the survey methodology is the capacity to generalize to larger populations by summarizing findings based on data from a sample. Moreover, surveys can be implemented at a low cost and in a relatively short period of time (Nayak and Narayan, 2019). By designing a well-structured survey, researchers can generate standardized data for analysis and statistics. In this study, the researcher used the six-point Likert scale (strongly disagree, disagree, slightly disagree, slightly agree, agree, and strongly agree), including four sections which were Affective Dimension (AD, six items), Behavioral Dimension (BD, six items), Cognitive Dimension (CD, six items), and Satisfaction (ST, two items).

The structured interview is an effective way to keep the collected data tightly focused on the target topic (Bryman, 2008), and also is a way to gain insights into participants' perceptions and experiences, and the way they make sense of their lives (Merriam, 2002; Fraenkel et al., 2012). Besides, the approach systematizes the collection of qualitative material and facilitates the quantitative treatment of the material, which means the response to each question can be categorized and worked with numerical statistics (Weiss, 1995). Another overlooked benefit of qualitative interviews is that researchers can observe the respondent's body language, which might provide the researcher with useful information (Creswell and Creswell, 2017). There were three major open-ended questions in this study based on which follow-up questions were raised when necessary.

3.2. Participants

On a voluntary basis, 120 students from a private university in Vietnam participated in the study. At the time of research, they had just completed the specialization (a series of courses) named "Academic English: Writing Specialization" on Coursera. As the school was a partner of Coursera, the students were given free access to certain courses or specialization on the platform, which offered the researcher the opportunity to have direct contact with these users.

The participants (78 males and 42 females, aged 19–22) majored in Information Assurance, and they were taking the Coursera specialization to gain research writing knowledge and skills which were essential to their graduation theses in their final year. They had 14 weeks to complete the specialization and were required to submit the certificates to the school prior to their final examination. They mostly learned by themselves, at any time of their convenience as long as they could meet the requirements and attained the certificates.

3.3. Coursera specialization and courses

The specialization that the participants enrolled in at the time of research was the "Academic English: Writing Specialization," about academic and research writing, offered by the University of California (Irvine, the United States). There were five sub-courses in the specialization, including "Grammar and Punctuation," "Getting started with essay writing," "Advanced writing," "Introduction to research for essay writing," and "Project: Writing a research paper."

In each course, students were required to watch video lectures, read certain materials, take quizzes, submit assignments, and review others' works. Besides that, for peer-graded assignments, they had to wait for at least three random members to give feedback on their writings. They were only awarded a certificate of completion for each course when all the requirements (80% or higher for all kinds of assessments) mentioned above were met. Any plagiarized assignments would be flagged, and the scores would be overridden, which meant students had to retake the course.

3.4. The procedure

The whole procedure took place within a 7-day span of time. First, the researcher sent an email to the school to ask for permission to conduct the research as well as ask for the contact information of the participants. Second, another email elaborating the purpose of the research, together with a consent form and a questionnaire on Google Form, was sent to their email addresses. After 5 days, the researcher received 143 responses, but 23 of these were discarded due to low quality. Finally, 20 students were randomly contacted and invited for semi-structured interviews which took place on Google Meet. All of the interviews, about 10 min each, were recorded, under the permission from the interviewees, for later analysis.

Before being sent to the participants, the questionnaire was piloted on 30 students, and Cronbach's alpha value of 0.893 revealed that it was highly acceptable and internally consistent. The researcher only modified a few words or phrases in the statements to avoid misunderstanding or ambiguity.

3.5. Data analysis

The quantitative data obtained from the survey were first converted to Microsoft Excel before imported into SPSS (Statistical Packages for Social Sciences) version 27. Inferential analysis (Mean, SD), and Pearson correlation were employed to measure participants' attitudes toward Coursera courses.

The qualitative data (interviews) were analyzed and coded manually. First, the researcher listened carefully to each recording and transcribed it verbatim. Second, keywords in the transcripts were highlighted and put into codes. Then, the researcher grouped the codes together into categories from which general themes were

generated. The qualitative analysis was based on the six-step model proposed by Creswell and Creswell (2017), as follows (Figure 1).

4. Results

4.1. Learners' satisfaction of courses on Coursera

Cronbach's alpha value for the full-scale questionnaire was 0.904, and the values of "Corrected Item—Total Correlation" of all items were above 0.30. These figures indicated that the questionnaire was highly reliable and had good internal consistency (Pallant, 2020).

4.1.1. Affective dimension

Table 1 showed that the general mean of the affective dimension was 2.57 out of 6.0. It could, therefore, be inferred that the participants did not have positive perceptions of the course on Coursera. Moreover, it was obvious that they were not pleased about the course assessment ($M=2.39$, $SD=1.398$) and the support ($M=2.38$, $SD=1.378$) from Coursera the most.

4.1.2. Behavioral dimension

According to Table 2, the participants did not have a positive attitude toward the behavioral dimension, either (General Mean=2.49). Particularly, they did not base on the assessment to complete their assignments ($M=2.36$, $SD=1.352$). Further, they wanted the platform's interface to be changed ($M=2.40$, $SD=1.246$) and more tools to be provided for their course ($M=2.43$, $SD=1.097$).

4.1.3. Cognitive dimension

As can be seen from Table 3, the participants' perceptions of the cognitive dimension of the Coursera specialization were not positive (General Mean = 2.60). In particular, they thought that they could not apply what was learnt in new situations ($M=2.48$, $SD=1.243$), and that the courses did not help them assess ($M=2.53$, $SD=1.243$) or analyze ($M=2.57$, $SD=1.242$) information better. Further, the higher the levels of cognition, the lower the perceptions of achievements.

4.1.4. Satisfaction

It could be seen that learners were not satisfied with their learning on Coursera (General Mean = 2.39). Particularly, they did not want to continue their study on the platform ($M=2.27$, $SD=0.845$) because their experience was not positive ($M=2.50$, $SD=1.181$).

In brief, it could be concluded that learners' attitudes toward Coursera courses were quite negative, either in affective, behavioral, or cognitive aspects. A summary of mean values of (Figure 2) and participants' preferences (Figure 3) on all items in the three components was presented in Table 4.

4.2. Correlations between learners' satisfaction and the three domains

As depicted in Table 5, the correlations between learners' satisfaction and their affective dimension ($p < 0.001$), behavioral dimension ($p < 0.001$), and cognitive dimension ($p < 0.001$) were all significant and moderate ($0.2 < r < 0.5$). Specifically, satisfaction and affective aspects had the strongest correlation among the three types ($r=0.434$), followed by satisfaction with cognitive ($r=0.411$) and behavioral ($r=0.346$) aspects. It was, thereby, evident that how learners felt about Coursera courses significantly affected their satisfaction the most. Another inference was that the knowledge and skills that gained from the specialization also played a role in whether they were satisfied or not.

4.3. Learners' satisfaction and dissatisfaction of courses on Coursera

Interview data revealed that learners were mostly satisfied with elements not related to what constitutes quality of Coursera courses. In other words, they did not like Coursera courses for their content quality, but for other factors including flexibility and certificates for future career.

4.3.1. Satisfaction

4.3.1.1. Time and location flexibility

All of the interviewees ($n=20$) agreed that learning on Coursera helped them save time because they could choose to study lessons at any place they liked as long as they had a laptop with Internet access. Further, they could also go to the courses at any time of their

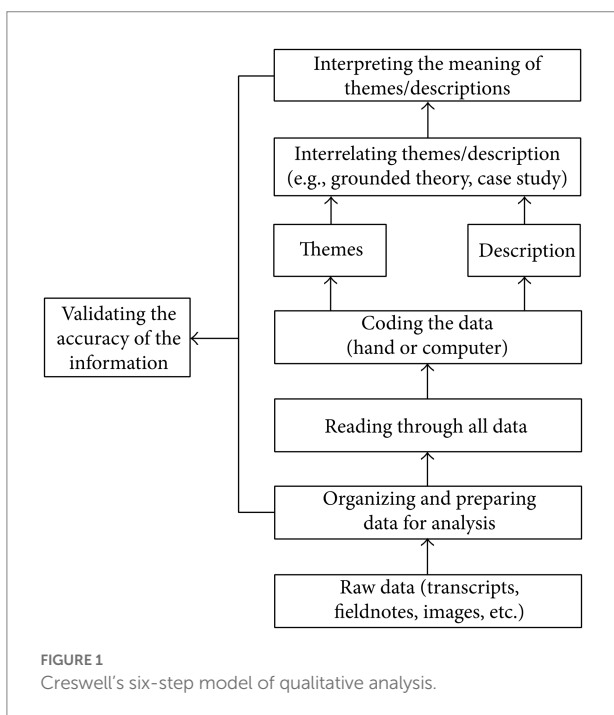


TABLE 1 Statistics for the affective dimension.

| General Mean: 2.57 Cronbach's alpha: 0.755 | | | | |
|--|---|-----|------|-------|
| Item | Statement | N | Mean | SD |
| AD1 | I feel that the assessment in my course is appropriate. | 120 | 2.39 | 1.398 |
| AD2 | I feel that the video lectures in my course are interesting. | 120 | 2.60 | 1.374 |
| AD3 | I feel that the support from Coursera is fast. | 120 | 2.38 | 1.378 |
| AD4 | I feel that the course design helps me study more easily. | 120 | 2.68 | 1.238 |
| AD5 | I feel that Coursera's interface is easy to use. | 120 | 2.82 | 1.402 |
| AD6 | I feel that Coursera provides me with needed tools for my course. | 120 | 2.56 | 1.395 |

TABLE 2 Statistics for behavioral dimension.

| General Mean: 2.49 Cronbach's alpha: 0.778 | | | | |
|--|--|-----|------|-------|
| Item | Statement | N | Mean | SD |
| BD1 | I try to finish my assignments based on the assessment. | 120 | 2.36 | 1.352 |
| BD2 | I watch the video lectures until the end. | 120 | 2.53 | 1.290 |
| BD3 | I give a good rating on Coursera's support. | 120 | 2.75 | 1.245 |
| BD4 | I follow the course design to obtain the certificates. | 120 | 2.48 | 1.277 |
| BD5 | I want to keep the current interface of Coursera. | 120 | 2.40 | 1.246 |
| BD6 | I mostly use the tools provided by Coursera for my course. | 120 | 2.43 | 1.097 |

TABLE 3 Statistics for cognitive dimension.

| General Mean: 2.60 Cronbach's alpha: 0.777 | | | | |
|--|--|-----|------|-------|
| Item | Statement | N | Mean | SD |
| CD1 | The courses on Coursera help me remember lessons better. | 120 | 2.70 | 1.268 |
| CD2 | The courses on Coursera help me understand lessons better. | 120 | 2.68 | 1.316 |
| CD3 | The courses on Coursera help me solve problems in my lessons better. | 120 | 2.63 | 1.263 |
| CD4 | The courses on Coursera help me compare and contrast information better. | 120 | 2.57 | 1.242 |
| CD5 | The courses on Coursera help me make judgments about information better. | 120 | 2.53 | 1.243 |
| CD6 | The courses on Coursera help me apply what is learnt in new contexts. | 120 | 2.48 | 1.243 |

convenience, which was highly appreciated. Illustrations could be found in the remarks of Participant 4 and Participant 7:

“The benefit of arranging my timetable for studying, I feel very comfortable and I am not forced to study in the morning or afternoon, but I can be free about the time I want.”(Participant 4)

“I can study online anytime and anywhere I want. I love that I can control my schedule.” (Participant 7)

4.3.1.2. Work opportunities

The majority of interviewees ($n=15$) stated that the certificates awarded to students at the end of each course were quite valuable for future job applications. As a result, they could become more employable and were motivated to follow the courses until the end. In fact, participant 14 shared, “The

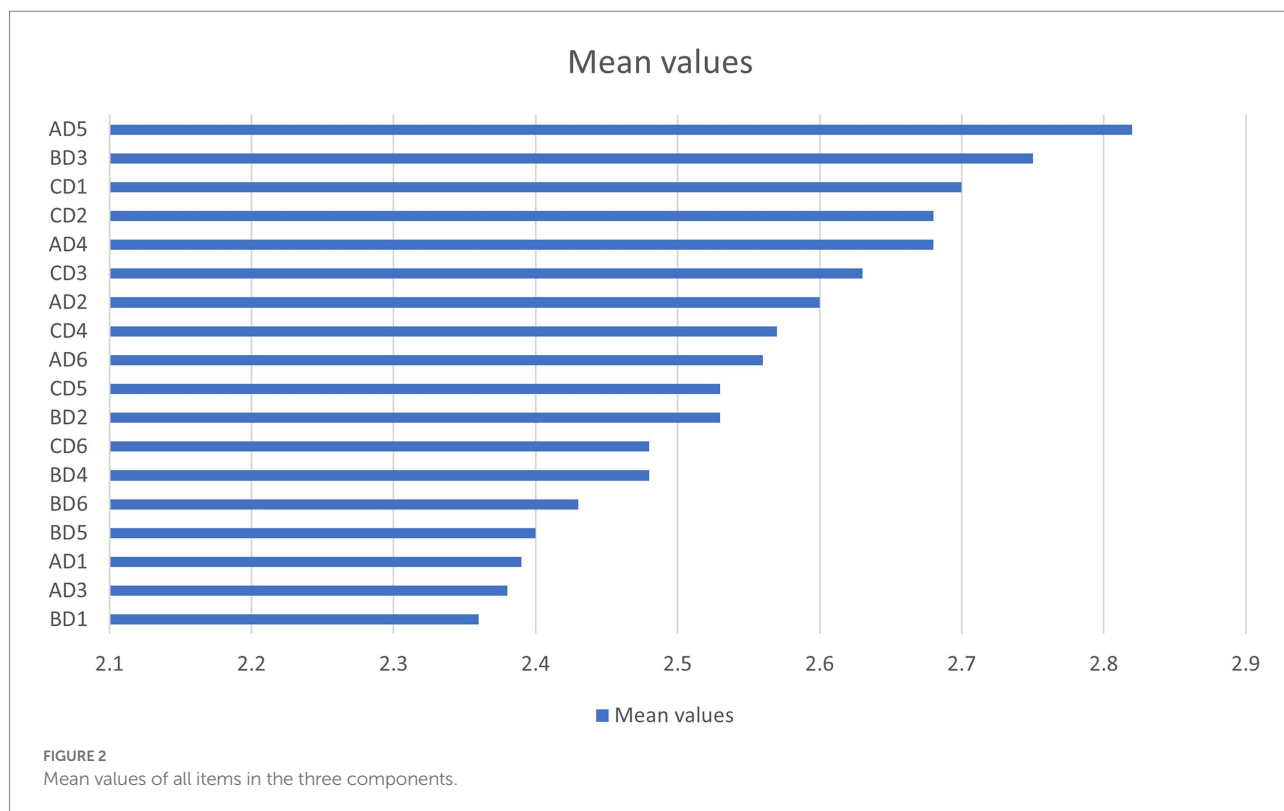
certificates can be put directly into a Curriculum Vitae or Linked In. Because the courses on Coursera are recognized by many organizations, I think they can be valuable.” Having the same view, participant 5 said, “Many companies still require a Curriculum Vitae with many certificates, so thanks to Coursera, my Curriculum Vitae will be better.”

4.3.2. Dissatisfaction

The interviewees did not feel satisfied with many aspects related to the quality of the courses on Coursera. The most dissatisfying aspects were peer reviews, lack of interaction, lack of support, and technological issues.

4.3.2.1. Ineffective peer review

Fourteen out of 20 participants responded that peer review did not accurately reflect the quality of their assignments as most reviewers even did not read the essays they were grading. When they had to review others' works, the interviewees also tended to



give scores at random because there were no supervisors or mentors who examined the reviews.

Participant 11 felt confused about how peer review worked, he stated, *“I do not know why but some people gave me zeros all the time. I put a lot of effort in my assignment, but they always gave me zeros, and then I must start it all over again. I think they did not even read my essays.”*

In the role of a reviewer, participant 3 shared, *“I know I should not do it, but I was too lazy to read. Moreover, no one controlled the review, so I just wanted to do it quickly, giving a random score.”*

4.3.2.2. Lack of interaction between instructors and students

Thirteen out of 20 participants said that learning Coursera online courses lacked interaction between instructors and students, reducing their learning motivation. Students had to study on their own without any guidance or any opportunity to discuss lessons with the instructors. Participant 14 reported, *“When there is no interaction between teachers and students, I feel that I am not as motivated to learn as when I study offline.”* Participant 19 suggested, *“I think the school should cooperate with Coursera and organize weekly meetings with the teachers so that I can ask questions and receive the answer faster.”*

4.3.2.3. Plagiarism software

Twelve out of 20 participants brought up the same problem with the plagiarism checking program. They did not know how

it worked nor what criteria that they based on to check the student’s works.

Participant 3 shared, *“I did the work on my own, but the Plagiarism checking program said it was copied from someone else. I could not solve that problem and had to retake the course.”*

Participant 11’s tone of voice became negative when discussing this problem, *“I think the most difficult thing when learning Coursera online courses is the plagiarism checker program. I find this one quite vague and sometimes frustrating for students. I must use other plagiarism checker webs before submitting my work to avoid unreasonable plagiarism on Coursera.”*

4.3.2.4. Lack of support

There were 11 out of 20 participants who complained about Coursera’s support. In most cases, students had to email Coursera support, asking to reopen their accounts because of plagiarism checking programs and locked contents. They did not feel happy when having to wait for days for the reply. Moreover, the attitude of the support team was quite rude.

Participants 2 claimed, *“Once my work was plagiarized and I sent an email to ask to be removed, I have a feeling that the people who replied to the mail are quite rude.”*

Participant 10 also felt unhappy as he said, *“When I saw some locked content in my course, I contacted Coursera support. However, I had to wait for a week for my concern to be addressed.”*

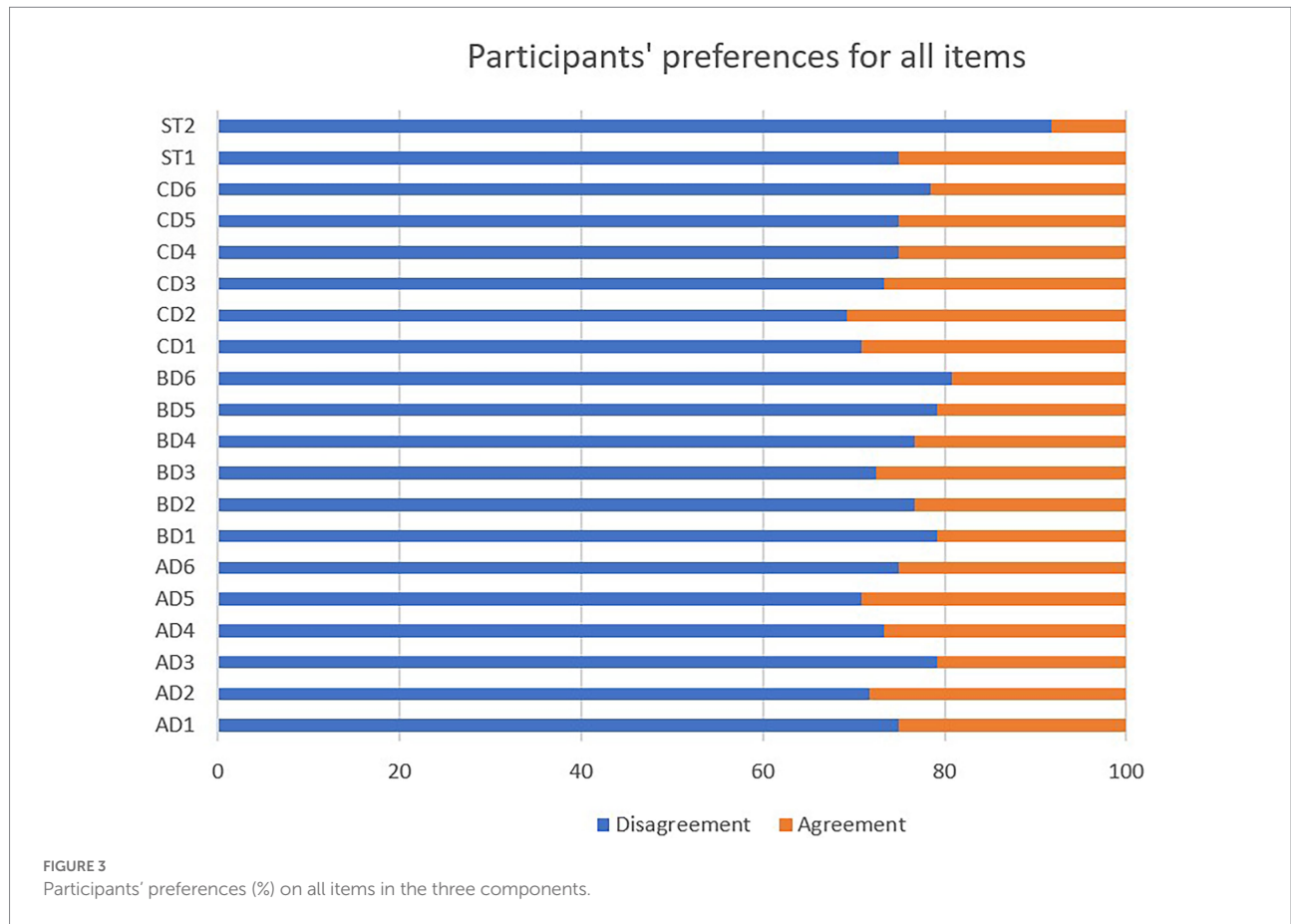


TABLE 4 Statistics for satisfaction.

| General Mean: 2.39 Cronbach's alpha: 0.747 | | | | |
|--|--|-----|------|-------|
| Item | Statement | N | Mean | SD |
| ST1 | In general, I am happy with my course on Coursera. | 120 | 2.50 | 1.181 |
| ST2 | I want to continue my learning on Coursera. | 120 | 2.27 | 0.845 |

5. Discussion

The present study expands previous research in a number of ways. First, it particularly addresses learners' satisfaction of MOOCs as well as what they were satisfied or dissatisfied with the most, not the factors affecting their satisfaction as in past studies. This is important as institutional leaders and course designers can further understand how learners felt and what learners thought, based on which practical resolutions can be made. Second, it confirms previous studies by exploring the correlations between learner satisfaction and three dimensions of learning attitudes including affective, behavioral, and cognitive aspects. Finally, by employing data obtained from

direct communication with the participants, the present study adds greater insights into previous research. In fact, *via* a survey and semi-structured interviews together with follow-up questions, learners' perceptions could be understood in a far deeper way than only relying on short narrative comments.

Research question 1: To what extent are learners satisfied with courses on Coursera as a MOOC platform?

Via the quantitative and qualitative analyses, three major findings were formed. The first one is that learners' satisfaction of Coursera courses was relatively low ($M=2.39$ out of 6.0). This could be down to their low perceived usefulness of the courses. To illustrate, the general mean values of the affective, behavioral, and cognitive dimensions were 2.57, 2.49, and 2.60 (out of 6.0), respectively. These figures showed that learners did not adopt a positive attitude toward many aspects of the courses, such as assessment ($M=2.39$, $SD=1.398$), pre-recorded videos ($M=2.60$, $SD=1.374$), and design ($M=2.68$, $SD=1.378$). Such a finding is in line with previous studies (Gameel, 2017; Du, 2022) which reported that learners' perceived usefulness, assessments, videos, instructors, and materials were significantly linked to learners' satisfaction. Thus, it could be inferred that significant changes are needed to improve the quality of Coursera courses as well as enhance learners' experiences and academic performances.

TABLE 5 Coefficient correlation.

| Variable | | Affective | Behavioral | Cognitive |
|--------------|---------------------|-----------|------------|-----------|
| Satisfaction | Pearson Correlation | 0.434 | 0.346 | 0.411 |
| | Sig. (two-tailed) | <0.001 | <0.001 | <0.001 |

Research question 2: What are the correlations between learners' satisfaction and the three domains in the ABC Model (affective, behavioral, and cognitive)?

Another finding is that there is a moderate correlation between learners' satisfaction and three components: affective, behavioral, and cognitive dimensions. Among them, affective ($r=0.434, p<0.05$) and cognitive ($r=0.411, p<0.05$) aspects have the strongest correlations with learners' satisfaction. This means how learners feel about and what they can learn from the courses significantly affect whether they are satisfied with these academic programs or not. This finding confirms previous studies on learners' satisfaction of MOOCs (Gameel, 2017; Luo and Ye, 2021; Du, 2022). For instance, in research of Du (2022), the author found that learners' satisfaction was significantly linked to the videos, instructors, evaluations, perceived usefulness, and workloads. In the present study, the survey items included almost all of these factors, so the results were quite similar. Another explanation could be that satisfaction is a state of psychology, which is closely linked to the affective aspect, feelings, and emotions (Ostrom, 1969). Therefore, it is obvious that in order to enhance learners' satisfaction, course designers need to invest more time and effort in making high quality and reliable materials, assessments, and course usefulness.

Research question 3: What are learners satisfied or dissatisfied with the most regarding courses on Coursera as a MOOC platform?

Analysis from qualitative data revealed that learners' dissatisfactions outweighed their satisfaction. On the one hand, they were mostly content with aspects not related to course quality. One merit lies in the flexibility in time and venue of learning as students can choose where and when to study without having to attend a traditional classroom with a fixed schedule. This is in line with the study by Gameel (2017), which claimed that the MOOC platform like Coursera allows learners with access almost all the time as long as they have an Internet-access device with them. Another advantage of Coursera is that it offers learners a certificate upon the completion of a course, which is valuable to them in the future job market. This aligns with the finding of research of Gameel (2017). Gameel's that students will be able to enhance their competitive advantages and impress employers.

On the other hand, learners adopted a negative attitude toward most aspects of Coursera courses. First, this was due to the lack of direct interaction between learners and instructors. This confirms the findings by Yin (2016), Rodriguez (2013),

and Bates (2012) who claimed that MOOCs like Coursera are still based on the "passive and static" schooling. Interview data also show that without guidance or responses from teachers or mentors, learners' concerns are not addressed, demotivating them to study. However, this finding contrasts with recent studies (Gameel, 2017; Du, 2022). These authors claimed that learner-learner and learner-teacher interactions were not significantly linked to learners' satisfaction. This difference could be due to the fact that in the research of Gameel (2017) and Du (2022), the authors only used narrative comments posted publicly on MOOC platforms while in the present study, the researcher obtained data by directly communicating with the participants. Another explanation is that in their studies (Gameel, 2017; Du, 2022), the authors collected data from different kinds of courses whereas in the present study, only writing courses were chosen. In writing courses, there might be a higher need of teachers and peers for feedback and corrections. Second, the assessment in Coursera courses is not accurate and reliable as it is mostly based on peer reviews. As previously mentioned by Carr (2012) and qualitative data, there were no teachers controlling the grading and reviewing process, learners tended to give others' works a random score, sometimes without even reading the content. Such a drawback makes students lose faith in the assessment scheme, and thereby do not follow it when working on their assignments. Third, technological problems, particularly the plagiarism checker of Coursera, deter students from enjoying their learning. This was not in line with the study conducted by Kundu and Bej (2020) about the interface of MOOCs. Probably, this is because the courses in the present study focus on academic writing which requires a larger number of words to be checked against plagiarism than other courses. Finally, a lack of support from Coursera is a contributor to students' dissatisfaction, which is not addressed in past research on Coursera courses. This could be due to the huge number of users on the platform as more and more users are enrolling in Coursera. In other words, too many requests or inquiries might have slowed down the process of support, leading to poor student services.

In brief, the present study found that learners were not content with their learning on Coursera courses, largely due to a variety of factors related to assessments, videos, lack of support, and technological hassles. However, they appreciated the flexibility in learning time and venue as well as the obtained certificates which were considered useful for their future careers. Additionally, learner satisfaction was moderately linked to their affective, behavioral, and cognitive aspects.

6. Conclusion

The present study aimed to examine how learners were satisfied with Coursera courses as well as entailed in-depth aspects related to learners' satisfaction and dissatisfaction of this MOOC platform. Also, it intended to explore how learners' satisfaction of Coursera courses and their affective, behavioral, and cognitive dimensions were correlated. *Via* a mixed-methods approach including a survey design and semi-structured interviews, it was found that participants, in general, did not enjoy their learning on Coursera due to a variety of problems such as inappropriate assessments, lack of interaction between teachers and students, delayed support, and improper plagiarism check despite two benefits including flexibility in time and place as well as certificate provision. Another finding was that affective, behavioral, and cognitive dimensions were moderately correlated with learners' satisfaction. This study bridged the gaps in previous research in several ways. First, it sheds light on the level of learners' satisfaction of Coursera as a MOOC platform as well as the details of such satisfaction or dissatisfaction. These aspects were mostly overlooked by past studies as they placed more emphasis on factors influencing learners' satisfaction. Second, it digs deep into learners' perceptions of MOOCs *via* direct surveys and interviews with the participants. These data are valuable, especially in the circumstance that most past research only relied on narrative reviews publicly shown on MOOC platforms.

Despite contributing great insights to the extant literature of MOOCs and Coursera, the present study also has some limitations. First, learners' perceptions were measured on a single specialization only, the academic writing; whether the results could be generalized to other fields or not remained unclear. Second, the sample size was small compared to the number of current users of Coursera, which might not fully depict the whole scenario. However, other scholars could use the present study as a foundation for their future research, with a larger sample size including users from disciplinary fields such as science, business, and health. Third, this study is only a case study, which means that the outcomes might not be broadly generalized to other contexts. Thus, future researchers are recommended to conduct large-scale or longitudinal studies employing learners from various backgrounds to generate more profound findings. Additionally, the present study could be further developed by examining the strategies learners usually use to complete the courses, based on which better methods to facilitate their learning process are to be proposed. Alternatively, entrepreneurs' perceptions and recognition of the certificates obtained from MOOCs should also be explored to motivate learners to invest more time in courses on MOOC platforms to obtain future skills future skills needed for their careers (Jardim, 2021). If skillfully approached, the question of how learners view Coursera courses, as a MOOC platform, would be unveiled in a more complete manner.

There are some pedagogical implications that can be drawn from the results of the present study. For one thing,

it is recommended that Coursera needs to alter the way assignments are graded. Instead of peer review, course designers, specialists, or instructors should be responsible for marking students' works to help them identify and learn from their mistakes. Second, there should be several online meetings, either weekly or bi-monthly, between teachers and students. This will give them the chance to raise questions or concerns they have during their study. Once their inquiries are addressed and they know what to do, students may feel more motivated to try harder to complete their lessons. Another improvement that can be made is that Coursera should hire more staff or teachers to better the support service, meeting demands of learners in a timely manner. Furthermore, the plagiarism checker should be carefully checked as well as modified to work faster and more accurately. Delays or inaccurate claims of plagiarism would have a negative effect on students' psychology and learning motivation. In addition, students should be aware of the aforementioned downsides of Coursera before enrolling into new courses. Finally, schools and educators need to have independent tests to examine whether their students could achieve the knowledge and skills as expected. As previously researched by Gameel (2017), Luo and Ye (2021), Du (2022), Rääf et al. (2021) as well as Haba and Dastane (2019), these factors are closely related to learners' perceptions of MOOCs.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The studies involving human participants were reviewed and approved by the management board, FPT University, Ho Chi Minh City, Vietnam. The patients/participants provided their written informed consent to participate in this study.

Author contributions

The author confirms being the sole contributor of this work and has approved it for publication.

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Conflict of interest

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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References

- Al-Rahmi, W. M., Yahaya, N., Alamri, N. M., Aljarboa, N. A., Kamin, Y. B., and Saud, M. S. B. (2019). How cyber stalking and cyber bullying affect students' open learning. *IEEE Access* 7, 20199–20210. doi: 10.1109/ACCESS.2019.2891853
- Anderson, L. W., and Krathwohl, D. R. (2001). *A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives*. New York: Longman.
- Bates, T. (2012). "What's right and What's wrong about Coursera-style MOOCs? In online learning and distance education resources." Recuperado de. Available at: <http://Goo.Gl/7FXHWT>
- Bloom, B. S. (1956). "Taxonomy of Education Objectives: The Classification of Education Goals," *Handbook I, Cognitive Do-Main*. NY: Longman.
- Bryman, A. (2008). Of methods and methodology: qualitative research in organizations and management. *Int. J.* 32, 159–168. doi: 10.1108/1746564081090568
- Cao, W., Fang, Z., Hou, G., Han, M., Xu, X., Dong, J., et al. (2020). The psychological impact of the COVID-19 epidemic on college students in China. *Psychiatry Res.* 287:112934. doi: 10.1016/j.psychres.2020.112934
- Carr, N. (2012). The crisis in higher education. *Technol. Rev.* 115, 32–40.
- Chong, S. W., Khan, M. A., and Reinders, H. (2022). A critical review of design features of LMOOCs. *Comput. Assist. Lang. Learn.*, 1–21. doi: 10.1080/09588221.2022.2038632
- Coursera (2022). "About Coursera." Available at: <https://about.coursera.org/> (Accessed September 5, 2022).
- Creelman, A., and Ossiannilsson, E. (2014). Perspectives on MOOC quality: an account of the EFQUEL MOOC quality project. *Int. J. Innov. Quality Learn.* 2:87.
- Creswell, J. W., and Creswell, J. D. (2017). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. Los Angeles: Sage Publications.
- Ding, Y., and Shen, H. (2022). Delving into learner autonomy in an EFL MOOC in China: a case study. *Comput. Assist. Lang. Learn.* 35, 247–269. doi: 10.1080/09588221.2019.1681464
- Du, B. (2022). Research on the factors influencing the learner satisfaction of MOOCs. *Educ. Inf. Technol.*, 1–21. doi: 10.1007/s10639-022-11269-0
- Fraenkel, J. R., Wallen, N. E., and Hyun, H. H. (2012). *How to Design and Evaluate Research in Education 7*. New York: McGraw-hill.
- Gameel, B. G. (2017). Learner satisfaction with massive open online courses. *Am. J. Dist. Educ.* 31, 98–111. doi: 10.1080/08923647.2017.1300462
- Haba, H. F., and Dastane, O. (2019). Massive open online courses (MOOCs)—understanding online learners' preferences and experiences. *Int. J. Learn. Teach. Educ. Res.* 18, 227–242. doi: 10.26803/ijlter.18.8.14
- Jacques, S., Ouahabi, A., and Lequeu, T. (2020). Remote knowledge acquisition and assessment during the COVID-19 pandemic. *Int. J. Eng. Pedagog.* 10, 120–138. doi: 10.3991/ijep.v10i6.16205
- Jardim, J. (2021). Entrepreneurial skills to be successful in the global and digital world: proposal for a frame of reference for entrepreneurial education. *Educ. Sci.* 11:356. doi: 10.3390/educsci11070356
- Johnson, L., Becker, S. A., Cummins, M., Estrada, V., Freeman, A., and Hall, C. NMC horizon report: 2016 higher education edition. The New Media Consortium. (2016).
- Kim, S. (2016). MOOCs in higher education. *Virt. Learn.* 1, 1–17. doi: 10.5772/66137
- Kundu, A., and Bej, T. (2020). Perceptions of MOOCs among Indian state university students and teachers. *J. Appl. Res. High. Educ.* 12, 1095–1115. doi: 10.1108/JARHE-08-2019-0224
- Luo, R., and Ye, Z. (2021). What makes a good-quality language MOOC? An empirical study of criteria to evaluate the quality of online language courses from learners' perspectives. *ReCALL* 33, 177–192. doi: 10.1017/S0958344021000082
- Merriam, S. B. (2002). Introduction to qualitative research. *Qualitat. Res. Pract.* 1, 1–17.
- Nayak, M., and Narayan, K. (2019). Strengths and weaknesses of online surveys. *Technology* 6, 31–38. doi: 10.9790/0837-2405053138
- O'Dwyer, L. M., and Bernauer, J. A. (2013). *Quantitative Research for the Qualitative Researcher*. Los Angeles: Sage Publications.
- Ostrom, T. M. (1969). The relationship between the affective, behavioral, and cognitive components of attitude. *J. Exp. Soc. Psychol.* 5, 12–30. doi: 10.1016/0022-1031(69)90003-1
- Pallant, J. (2020). *SPSS Survival Manual: A Step by Step Guide to Data Analysis Using IBM SPSS*. London: Routledge.
- Pham, A. T. (2022). Engineering students' interaction in online classes via Google meet: a case study during the COVID-19 pandemic. *Int. J. Eng. Pedagog.* 12, 158–170. doi: 10.3991/ijep.v12i3.29673
- Räaf, S. A., Knöös, J., Dalipi, F., and Kastrati, Z. (2021). "Investigating learning experience of MOOCs learners using topic modeling and sentiment analysis," 01–07. IEEE.
- Rodriguez, O. (2013). The concept of openness behind c and X-MOOCs (massive open online courses). *Open Praxis* 5, 67–73. doi: 10.5944/openpraxis.5.1.42
- Stracke, C. M., Tan, E., Teixeira, A. M., Pinto, M., Vassiliadis, B., Kameas, A., and Sgouropoulou, C. (2018). "Gap between MOOC designers' and MOOC learners' perspectives on interaction and experiences in MOOCs: Findings from the global MOOC quality survey" in *2018 IEEE 18th International Conference on Advanced Learning Technologies (ICALT)*. Mumbai, India, 9–13.
- Tong, X., and Jia, X. (2017). The establishment of quality criteria framework of MOOCs. *China's Distance Education Journal* 5, 63–71.
- Weiss, C. H. (1995). Nothing as practical as good theory: exploring theory-based evaluation for comprehensive community initiatives for children and families. *New Approach. Eval. Commun. Initiativ. Concepts Methods Contexts* 1, 65–92.
- Yin, Y. (2016). "Chinese learners perceptions of MOOCs: A case study." Doctoral dissertation. (Heinrich-Heine-Universität Düsseldorf), 1–205.
- Zhai, Y., and Du, X. (2020). Addressing collegiate mental health amid COVID-19 pandemic. *Psychiatry Res.* 288:113003. doi: 10.1016/j.psychres.2020.113003
- Zimmerman, T. D. (2012). Exploring learner to content interaction as a success factor in online courses. *Int. Rev. Res. Open Dist. Learn.* 13, 152–165. doi: 10.19173/irrodl.v13i4.1302