Inovasi Kurikulum *- p-ISSN 1829-6750 & e-ISSN 2798-1363*
Volume 21 No 4 (2024) 2263-2274

Inovasi Kurikulum
https://ejournal.upi.edu/index.php/JIK

Student perspectives of MOOCs process

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ABSTRACT

This study investigates participants' experiences in Massive Open Online Courses (MOOCs). In the last decade, online learning has experienced rapid growth, and MOOCs have become one of the most popular forms of online learning. The digital transformation led to increased mobile and internet users, facilitating the adoption of online learning platforms. As one of the digital transformation products, this study aims to describe the use of Massive Open Online Courses from the perspectives of higher education students. Despite the increase of MOOCs use in the higher education, the dropout rates tend to be high. Students play an essential role in that case. This study focuses on MOOCs prior to learning, the activity during learning, and how the learning assessment is delivered from student perspectives. Using descriptive method, with the involvement of twelve MOOCs students from higher education. This study has concluded that the information presented in the prior learning process is essential regarding choosing specific MOOCs courses. Students value interaction and engage in content during the learning process, especially real-world examples. Although some participants found the assessment process challenging, it was perceived as relevant to the course objectives. At the same time, easy navigation and access to learning resources are essential for MOOCs platforms to be considered user-friendly courses. Overall, the study suggests that MOOCs students should be well informed initially. Then MOOCs courses should be delivered dynamically to maintain student motivation and provide relevant assessment.

ARTICLE INFO

Article History:
Received: 18 Aug 2024
Revised: 21 Nov 2024
Accepted: 24 Nov 2024
Available online: 28 Nov 2024
Publish: 29 Nov 2024

Keyword:
higher education; instructional design; MOOCs; online course

Open access
Inovasi Kurikulum is a peer-reviewed open-access journal.

ABSTRAK

Selama sepuluh tahun terakhir, telah terjadi pertumbuhan yang signifikan dalam pendidikan daring, dengan MOOCs muncul sebagai salah satu opsi yang paling populer. Transformasi digital, yang ditandai dengan peningkatan langganan seluler, pengguna internet, dan akses pita lebar, telah mendorong munculnya platform pembelajaran daring. Penelitian ini mengeksplorasi pengalaman individu yang berpartisipasi dalam Massive Open Online Courses (MOOCs). Sebagai salah satu produk transformasi digital, penelitian ini bertujuan untuk mendeskripsikan penggunaan Massive Open Online Courses dari perspektif mahasiswa pendidikan tinggi. Meskipun penggunaan MOOCs meningkat di universitas yang lebih tinggi, tingkat penyelesaian kursus cenderung tinggi. Sangat jelas bahwa mahasiswa memainkan peran penting dalam kasus tersebut. Fokus penelitian ini adalah pada pembelajaran sebelumnya melalui MOOCs, aktivitas selama pembelajaran, dan bagaimana penyampaian asesmen pembelajaran dari perspektif mahasiswa. Dengan menggunakan metode deskriptif, penelitian ini melibatkan dua belas mahasiswa pendidikan tinggi yang mengikuti MOOCs. Temuan menunjukkan bahwa materi pembelajaran awal sangat penting dalam memengaruhi keputusan untuk mendaftar di kursus MOOCs tertentu. Selama fase pembelajaran, mahasiswa menghargai konten yang interaktif dan menarik, terutama jika mencakup aplikasi dunia nyata. Meskipun beberapa peserta menganggap proses penilaian sulit, mereka menganggapnya relevan dengan tujuan kursus. Selain itu, navigasi yang mudah dan akses ke materi pembelajaran sangat penting agar platform MOOCs dianggap sebagai kursus yang mudah digunakan. Sebagai kesimpulan, penelitian ini menyoroti pentingnya memberikan informasi yang memadai kepada siswa di awal dan menyarankan agar MOOCs disampaikan dengan cara yang menarik untuk mempertahankan motivasi siswa dan menawarkan penilaian yang relevan di akhir.

Kata Kunci: *desain pembelajaran; kursus daring; MOOCs; pembelajaran di perguruan tinggi*

How to cite (APA 7)
Sutisna, M. R., Susanty, A., Pannen, P., Hertono, G. F., Riyanti, R. D., Febrianti, R., & Susilana, R. (2024). Student perspectives of MOOCs process. *Inovasi Kurikulum, 21*(1), 2263-2274.

Peer review
This article has been peer-reviewed through the journal's standard double-blind peer review, where both the reviewers and authors are anonymised during review.

https://doi.org/10.17509/jik.v21i4.76161

INTRODUCTION

The term MOOCs consists of four words that are Massive, Online, Open, and Courses. The main characteristics of Massive Open Online Courses (MOOCs) are brought by two words: Massive and Open. MOOCs should be massive so that the course can enroll many participants. MOOCs should also be Open, so the course makes it possible to enroll anyone as a student (Hollands & Tirthali, 2014). In the last decade, online learning has experienced rapid growth from elementary to higher education (Sutisna et al., 2021). MOOCs have become one of the most popular forms of online learning. MOOCs offer flexibility, accessibility, and quality higher education to millions of learners worldwide. MOOCs enable anyone, anywhere, to take part in high-quality educational programs. The introduction of MOOCs has significantly impacted higher education globally, as increased access and more educational options compel institutions to rethink their teaching strategies and align with contemporary educational trends. There are several motivations for students to engage in a MOOCs. To highlight a few, they may seek a degree, pursue a new job, aim for a promotion, look for a post-retirement position, gain admission to a college, or use it for corporate training. Consequently, both public and private universities are beginning to reassess their educational strategies and methodologies locally and internationally (Voudoukis & Pagiatakis, 2022).

The growth of MOOCs utilization has been significant. The digital transformation led to increased mobile subscriptions, internet users, and broadband subscriptions, facilitating the adoption of online learning platforms (Manickam et al., 2021). The resilience in the education system during the COVID-19 pandemic highlighted the self-regulation learner focusing on building skill sets that emerged as a significant predictor of MOOCs adoption (Bawane & Harichandan, 2022; Papadakis, 2023). The development of digital technology adoption during the COVID-19 era was from a handful of the government (Susilana et al., 2020). Government initiatives have played an essential role in supporting the expansion of Massive Open Online Courses (MOOCs). China's lifelong learning strategy has helped the country grow MOOCs. However, Chinese learners believe that MOOCs have had a good impact on the higher education scene without necessarily undermining the present structure (Tang & Wang, 2019).

The accessibility and flexibility of MOOCs have made them increasingly popular in the education sector. The number of students in MOOCs increased from 0 in 2012 to at least 220 million in 2021, according to UNESCO in "*Global Education Monitoring Report 2023: Technology in education: A tool on whose terms?"*. The ease of organizing personalized schedules has made MOOCs very attractive to a wide range of learners, including working professionals and individuals with busy schedules. MOOCs have allowed learners to access free or low-cost learning content from recognized colleges and institutions worldwide. As a result, MOOCs have become a vital aspect of modern education, giving an alternative to face-to-face learning.

The ASEAN area has proven excellent e-government projects, mainly owing to the availability of suitable ICT infrastructure and the proliferation of MOOCs (Apriliyanti et al., 2021). Indonesia is one of the Southeast Asian countries that actively promotes MOOCs, which are rapidly expanding. The Indonesian government started developing MOOCs through SPADA Indonesia in 2014, then the Indonesian Cyber Education Institute in 2021, to emphasize its role as a quality assurance facility for online education in Indonesia (Nasution et al., 2024). The country has seen an increase in MOOCs use with numerous programs and institutions. In the Malaysian context, the Ministry of Higher Education (MOHE) has been very proactive in initiating and overseeing the implementation of MOOCs in Malaysian public universities since 2014. In the Malaysian Education Blueprint for Higher Education (2015-2025), the Ministry of Higher Education (MOHE) has indicated that MOOCs, as an online learning approach, are considered an interactive and engaging delivery, which increases the level of international collaboration and interaction (Noor & Aziz, 2020).

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MOOCs often suffer from high dropout rates. The University of Edinburgh experienced 309,628 learner enrolments and only 34,850 learners' completions, or around 11% of the enrolment. Meanwhile, Duke University conducted a Bioelectricity MOOsC in 2012, and Only 2.6% of 12,175 participants finished all the course contents and reached the perfect completion level. However, the non-completion participants indicated various reasons for their incomplete course progress (Onah et al., 2014). Designing a MOOCs that effectively engages a massive number of learners is complex. The extant MOOCs literature focuses excessively on behavioral engagement and less on other dimensions, particularly cognitive engagement (Deng et al., 2020). Variables such as poor pedagogy and low-quality assessments can influence the MOOCs effectiveness.

Numerous factors and obstacles in the design of MOOCs can affect the decision of the participants to subscribe to a course and maintain the activity to complete the course activities (Zhu et al., 2018). The research emphasizes the participants' perspectives on how the course is delivered in the prior learning and during the learning and assessment process. By examining these aspects, the study sought to pinpoint the possibilities in MOOCs design from the participants' viewpoint that every activity part of a MOOCs process is an opportunity to make a better course (Susanty et al., 2024). This is also expected to give MOOCs developers more understanding of their prospective participants so they can design the course more user-friendly. Therefore, the possibility of course completion can be higher.

LITERATURE REVIEW

Creating a fine-quality MOOCs requires consideration of multiple factors, such as educational methods, practical limitations, and technological needs. These factors are linked and can impact one another, complicating the design process. A successful MOOCs design should prioritize learner empowerment by promoting critical thinking, collaboration, and self-regulation. This includes establishing competency-based objectives and fostering peer support and evaluation via social feedback (Dang et al., 2017). MOOCs platforms enable students and educators to access knowledge and high-quality course materials effectively while connecting skilled teachers with numerous learners in a direct manner. Individuals who cannot attend in-person classes can conveniently sign up for any course online, allowing them to learn remotely from the classroom (Purkayastha & Sinha, 2021).

Engagement and interaction with students play a crucial role in designing MOOCs, so discussions among learners are promoted through forums during the six-week course. Recognizing the importance of the initial learning materials can help reduce dropout rates and improve prediction accuracy (Goldberg & Crocombe, 2017). This is because assessments in online courses can help identify students at risk of dropping out, highlighting the need to revamp quizzes for more economical learning. Student prior enrolment advisement to a course and their orientation on choosing a course will be the central issue in the prior learning. Interactive and engaging content, clarity of learning objective and progress tracking, course motivational strategies, mentoring peer support, and interaction are among the topics that will be studied within the learning description, and the topic of learning assessment will be focused on regular assessment feedback strategies and assessment usability (Vijila & Thiyagu, 2019).

The reasons for enrolling in a MOOCs are not commonly established and can vary even for the same individual taking different courses simultaneously. Students' internal motivations positively correlate with their learning and performance (Cho & Heron, 2015). Within MOOCs, however, participants tend to select parts of the learning environment, following their goals and interests. In online courses, individuals who finish a course usually have a greater interest in the subject matter. In contrast, those who do not complete the courses often view MOOCs as simply a form of learning experience (Wang & Baker, 2015).

Apart from the lack of costs, the most frequently mentioned reasons were MOOC's subject/topic area, professional development, and curiosity about MOOCs (Zheng et al., 2015). Based on the motivations

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discussed, we arrive at goals for participation that relate to the desire for knowledge, social engagement, personal motivations, career advancements, financial incentives, and the attainment of educational qualifications. The experiences of individuals involved in MOOCs differ significantly and are shaped by numerous factors. Successful MOOCs should be able to recognize participants' previous learning experiences and customize the educational materials to meet their specific requirements (Conole, 2015). Participants' prior knowledge and skills greatly influence their interaction with the learning materials.

Another critical point is how the course material is presented and participants' preferences for communication and learning environments. In these extensive courses, participants' individual characteristics, needs, and preferences concerning learning environments, content organization, interaction intensity, and assessment formats differ. During the learning process, MOOCs participants engage in various activities, such as watching videos, reading materials, completing assignments, and participating in discussion forums. An engaging and interactive course design can increase participant motivation and engagement. MOOCs delivery and development is impossible without problems, especially from student perspectives (Bozkurt & Aydin, 2015).

Students tend to pay more attention to clear course structure, engagement among learners, and learner-centered courses (Moore & Blackmon, 2022). Learners share comparable experiences regarding videos, course resources, and peers on the MOOCs platform. Nevertheless, engagement strategies that encourage student interaction can also provide additional educational benefits. The decision to select and provide any materials or activities is an example of how important it is to consider the cognitive processes and social interactions and how both relate to each other when creating and assessing learning environments, along with applying instructional methods that are expected to foster an effective learning process in an online course (Galikyan et al., 2021).

Among the pedagogical decisions that a MOOCs course designer and teacher must make are 1) Purpose and audience; 2) Course timing, pacing, and effort; 3) Course structure; 4) Course content; 5) Designed interaction; and 6) Assessment (Klobas et al., 2014). Despite these critical pedagogical aspects, an online course's assessment component becomes crucial. Motivational factors not only impact participants' MOOCs retention directly, but this impact is mediated by participant satisfaction, self-regulation, attitude toward using MOOCs, performance, engagement, and level of participation (Badali et al., 2022).

The relevance of assessment content, methods and time, testing standards, and authentication of legitimate participants involved in the assessment process are among many concerns in the assessment component of MOOCs. MOOCs' assessments not only measure learning achievement but also provide feedback to participants. Diverse and relevant assessments can help participants identify areas for improvement and enhance their understanding (Shrader et al., 2016).

Creating effective MOOCs requires careful consideration of various factors (Susanty et al., 2024). Learner-centered design, engaging content, and effective assessments are crucial for successful MOOCs. From another perspective, from the process point of view, strong technical strategies in the prior learning and assessment process for participants play significant roles in providing a high-quality learning experience. Understanding learners' motivations and tailoring the course content to their needs is essential. By addressing these factors, MOOCs should continue to provide innovative and impactful learning opportunities.

METHODS

This study aims to describe the use of Massive Open Online Courses from the perspectives of higher education students. This study focuses on MOOCs prior to learning, the activity during learning, and the delivery of learning assessment. This research uses a descriptive study. It is a study that describes the

https://doi.org/10.17509/jik.v21i4.76161

characteristics of a population or a specific phenomenon (Grimes & Schulz, 2002). This design's common objective is understanding a group population, samples, or a specific phenomenon. This study involves various data collection processes such as surveys, interviews, or observation.

The MOOCs students involved in this research are also higher education alumni from Indonesia and Malaysia. These two countries were chosen due to the similarity in the characteristics of their people. The interview process is conducted through both online and offline communication. The objective of this study is to describe the perspectives of MOOCs students.

They were subjected to information mining through direct and indirect interviews. Direct data documentation was generalized through online forms. After the data was collected, it was interpreted and justified into information based on the search framework. From this information, trends were obtained, which became the results of this study (Lambert & Lambert, 2012).

RESULTS AND DISCUSSION

The participants involved in this study are subscribed to their own university MOOCs provider. However, they also access regular online courses from independent providers that are not directly related to their higher education institution. The MOOCs providers participants have subscribed to are as follows, based on **Figure 1**.

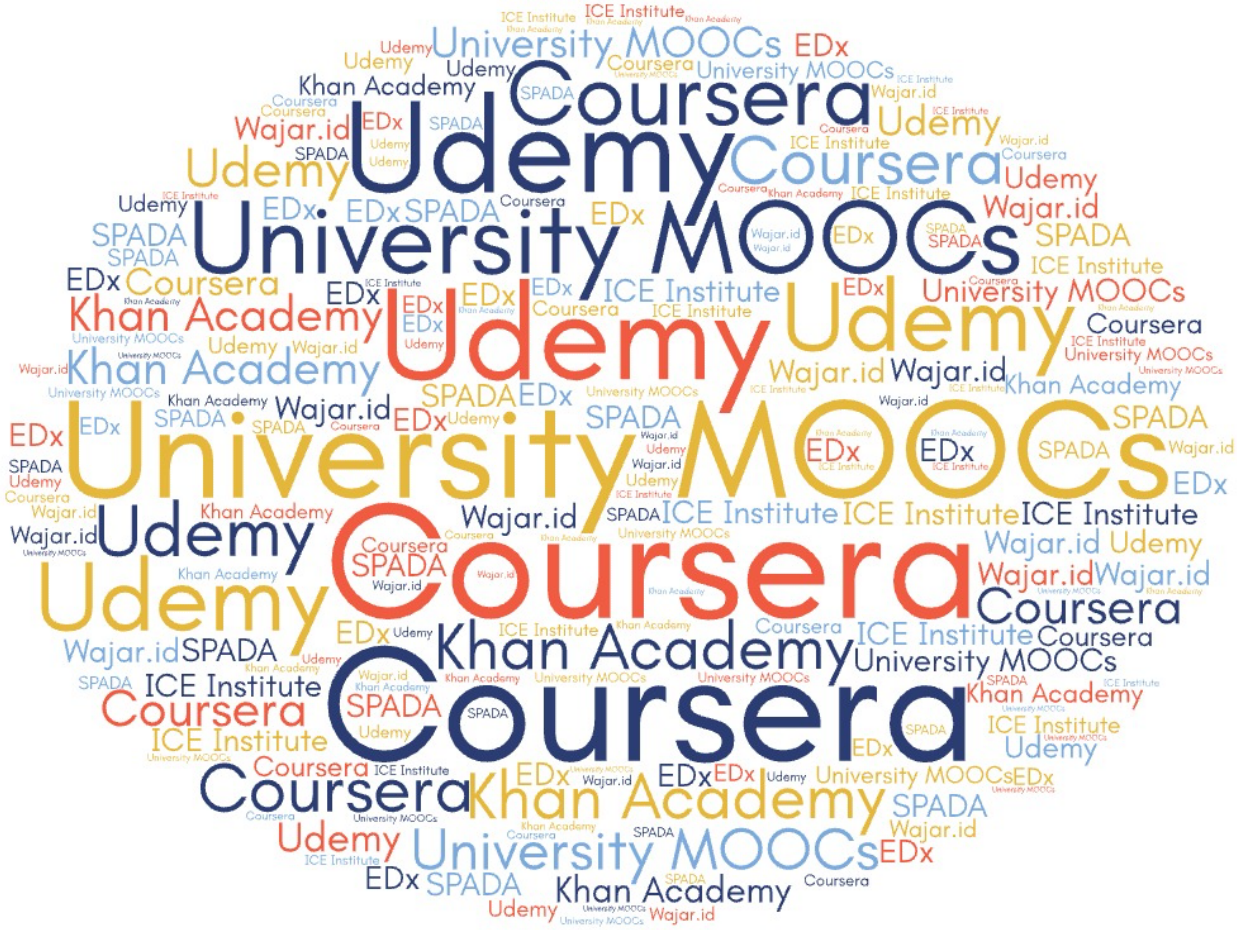

Figure 1. Word Cloud of Most Subscribed MOOCs Platform by this Study Participants
Source: Research 2024, generated with wordclouds.com

https://doi.org/10.17509/jik.v21i4.76161

The most subscribed provider is their own University MOOCs, followed by Coursera and Udemy. Behind that dominant provider are some popular MOOCs providers, such as Khan Academy and EDx, and new emerging providers, such as ICE Institute, SPADA, and Wajar.id as the least subscribed by our participants. Despite the illustration, the word cloud does not mean to rank MOOCs providers. It is only shown to describe the various sources of MOOCs providers subscribed by this study's participants.

Based on the interview results, most (9 out of 12) respondents had conducted a pre-assessment before starting the course. This shows that most course participants know the importance of evaluating their initial knowledge before learning. Meanwhile, in terms of receiving personalized recommendations based on their pre-assessment results, most (7 out of 12) stated that they had received recommendations. This indicates that the recommendation system implemented in the MOOCs effectively provides relevant suggestions to participants.

Most participants felt quite familiar or very familiar with using navigation and progress indicators in this course. Only a few respondents chose a value of 2, indicating that unfamiliarity with the feature was relatively low. Based on the available data, it can be concluded that this course's navigation and progress indicator features have been well-designed and are easy for most participants to understand. This indicates that the course's user interface design is relatively user-friendly.

All respondents responded positively and admitted to reading the course description and program outline before registering. Although evenly, some respondents admitted to receiving information on seeking help or support when facing problems during the program, while others admitted to not receiving information related to this.

Most (10/12) participants gave an upbeat assessment of MOOCs, introducing them to practical activities and recognizing the success of MOOCs in this aspect. In contrast, the rest (2/12) considered that MOOCs' efforts to introduce them to practical activities in the course were unsuccessful. With almost the same trend, almost all respondents (11/12) stated that the qualifications and expertise of the course facilitators had been clearly explained in the course introduction. Only one respondent answered "No" to this aspect. All participants considered that the use of video teaching materials in the MOOCs they accessed was effective in providing explanations of concepts and planned topic discussions. Moreover, including direct examples following real life helped expand and complete the understanding that had been formed. Meanwhile, the assessment activities strengthened the understanding that had begun to develop.

All respondents (12/12) considered that the sequence of delivery of the course material or topics to be completed was very easy to understand. The learning objectives and competency indicators are conveyed where each module is accessed. Moreover, the provision of progress indicators greatly helps the perception of course completion for course participants. Most participants considered the self-assessment activities quite valuable or very valuable in helping them understand how far they had mastered the course material. Moreover, almost all respondents (10/12) testified that they knew the criteria for completing the course and how to obtain a course completion certificate. Most respondents gave a pretty good rating to the statement about the involvement and interaction of course developers being entirely appropriate or very appropriate to their experience. Almost all (11/12) were satisfied with the response received when there were questions or something concerning.

The level of difficulty of the assessment given in the course attended by the respondents gave responses confirming that the assessment questions faced varied levels of difficulty. The questions presented in the assessment were also considered to represent the learning objectives based on the majority opinion (10/12). At the same time, only two respondents tended to doubt its relevance. All respondents thought the navigation tools and user interfaces of the MOOCs courses they attended were straightforward to understand. No respondents admitted to having difficulty accessing teaching materials, assignments, or assessment evaluations in the courses they attended. All respondents also gave the same impression of

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the interactive features, which provided meaningful engagement between participants and course instructors.

Discussion

Prior Learning

The E-learning course structure was affected by all dimensions of overall student autonomy, students' background, student-instructor dialogue, and student-student dialogue. As implied in the decision to subscribe to an online course, it possibly interferes with students' prior experience (Abuhassna et al., 2022). Course participants know the importance of evaluating their initial knowledge before starting learning. In addition, the recommendation system implemented in the MOOCs effectively provides relevant suggestions to participants. This belief seems to make course participants feel confident that they can meet their expectations and interests in this course. When asked about this optimism, all gave positive answers. This finding directly indicates that most participants feel pretty comfortable or very comfortable with the information regarding the duration and time commitment required in the course. Only a few respondents indicated discomfort with the course duration and time commitment to be followed. However, in general, this finding shows that the course design, in terms of time, followed the expectations and abilities of the participants. The synergy between course design and the quality of an online course is imminent and inevitable (Galán et al., 2022).

The orientation of the use of the MOOCs platform can be seen from how comfortable participants feel with the navigation system they face. The availability of course descriptions, information on the expertise of the course provider, and an introduction to the activities to be faced are other factors that make participants comfortable and ready to face the course they will take. Most participants feel familiar or even very familiar with using navigation and progress indicators in their courses. This indicates that MOOCs providers consider navigation an essential aspect that can help participants engage with the MOOCs platform. As part of the orientation, all respondents admitted to reading the course description, program outline, and various practical activities they would get during the course before registering. They also felt fully informed by the expertise of the course owner. All information stated and presented in prior learning could influence the motivation of student decisions (Vavouras, 2021).

Despite the reasonably good information about the course in the course description and program outline, a few participants still had difficulty finding support options if there were obstacles and doubts while accessing the course. However, in general, it can be concluded that participants felt that the initial introduction to the course developer was entirely appropriate for their involvement during the MOOCs. This shows that the course provider has succeeded in building realistic participant expectations regarding the developer's role, and it will be a good standard of good MOOCs (Galán et al., 2022).

During Learning

Interactivity and content involvement in the course are among the main points during the learning process. Course content can generally be divided into teaching materials, assessment questions, and presentation of case examples or analogies. Most participants considered that the content of the teaching materials provided, which predominantly use videos, used in the course was quite effective in explaining the course material (Galán et al., 2022). The same assessment from all respondents was related to the contribution of assessments that directly helped respondents' understanding of the course being followed.

A slightly different response was given to presenting actual case examples or analogies of the material or topics (Susanty et al., 2024). Some participants considered presenting real-world examples of the material less relevant, so it was considered less helpful in understanding the course being followed. However,

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several respondents still considered the real case examples or analogies helpful. So, it can be concluded that interactive and engaging content, from the perspective of MOOCs participants, can help their understanding during the course.

Clarity of learning objectives which are the targets of the learning process in online courses is one of the pieces of information that can influence the motivation of MOOCs participants. The clarity of the learning objectives can be strengthened by the availability of information regarding the arrangement or sequence of materials and activities in the course being faced. Meanwhile, the availability of information regarding the achievement of course implementation progress can be a guardian of motivation consistency while participants are taking the course (Vavouras, 2021).

In general, all respondents agreed that the MOOCs organizers had conveyed the learning objectives and expected results quite clearly to participants. This shows that the MOOCs design is considered an essential aspect of the learning process, namely providing clear direction to participants. Likewise, the clarity of the arrangement and sequence of materials/activities is considered to have been conveyed very clearly. Meanwhile, in the provision of course completion progress tracking services, although there was a minority of respondents who thought that the delivery of progress tracking was not yet felt to be urgent, most considered that the provision of accurate progress tracking features could help motivation consistency during the course implementation.

Another source of motivation is the implementation of independently carried out assessments, which is considered to provide a sense of self-confidence and awareness related to achieving course targets (Vavouras, 2021). Of course, MOOCs participants' knowledge of the graduation criteria and the existence of a graduation certificate can strengthen participants' motivation to continue and complete the course.

Guidance and support from both the Course developer and fellow course participants are other things that can enrich the learning experience during the course. Interactive activities can be done in two directions, either through discussion forums or other feedback spaces, including deepening understanding through a personal question-and-answer process (Abuhassna et al., 2022). This can determine the interactivity of a course, represented by the speed of response given by developers and course participants.

Most participants admitted they were not interested in actively participating in discussion forums. This is because participants tend to think that discussion forums on MOOCs cannot provide instant responses so that they can align with the momentum of the needs of fairly dynamic discussion topics (Galán et al., 2022). However, some respondents still have opposing opinions, namely, considering discussion forums as one of the things needed to facilitate learning interactivity. All respondents generally felt that the course developers showed their involvement during the participants' course. This shows that communication with course developers can be done quite well. All respondents expressed their breadth of support services provided by course developers for the problems faced.

Learning Measurement

Implementing assessments as the closing of learning activities has a crucial function. Facilitating the achievement of summative objectives to assess the success of course participants. Almost all respondents considered that the assessments provided were relevant to the course objectives conveyed at the beginning; the alignment of objectives with assessment is essential for any course designer to consider (McCracken et al., 2012). However, some respondents disagreed. However, the impression that the assessment questions given at the end of the course session were quite challenging, there was no objection from all respondents.

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As a reflection on the aspect of using the MOOCs platform that was followed, respondents' impressions as users were very positive. About usability, the navigation of all MOOCs platforms can be easily understood and is not difficult to use. Access to materials, activities, and other learning resources in the courses followed also tends to be simple. Although quite varied in providing interactive features, most participants considered that the MOOCs platform could provide facilities for meaningful interactions through discussion forums, live chat, comments or testimonials or other interaction features. Student experiences in assessment extent to which students believed the assessments would affect the formation of knowledge that could be implemented in real-world practice (Bailey et al., 2015).

CONCLUSION

This study has revealed several key insights into the experiences of MOOCs participants. Participants generally felt well-prepared for the courses, appreciating the effective recommendation systems and clear course descriptions. Many participants reported that the course information and support appreciated their prior knowledge and skills, allowing them to tailor their learning experience and focus on specific areas of interest. This suggests that well-designed course information and supports can significantly influence the decision of participants and increase the possibility to enhance the overall learning experience in MOOCs.

Interactive and engaging content, such as video-based materials and assessments, were valued by participants. However, there is a need for more relevant real-world examples to enhance the learning experience. Clear learning objectives and progress tracking were also considered crucial for maintaining motivation. While most participants were not actively involved in discussion forums, they appreciated the support provided by course developers. To enhance the MOOCs learning experience, course creators can incorporating more real-world examples, clear learning objectives and progress tracking into the content to boost participant engagement, learning outcomes, maintaining motivation and providing a sense of direction. While instructor support is valued, fostering active participation in discussion forums can enhance the learning experience and create a sense of community among participants.

While the assessments were generally perceived as relevant to the course objectives, some participants found them challenging. To enhance the assessment experience, it is recommended to provide clear guidelines, timely feedback, and various assessment formats to cater to different learning styles. The user-friendliness of MOOCs platforms, with easy navigation and access to resources, was generally well-received. So it is important for course designer to consider the navigation of the course platform as part of their delivery process.

To further optimize MOOCs and raise the course completion rate, future research should focus on strategies and techniques to enrich prior learning, enhance participant engagement in the learning process, optimize discussion forums, and increase real-world examples. Tailor assessments to individual learning needs for the assessment process. By addressing these areas, MOOCs can continue providing high-quality, effective, and engaging learning experiences for diverse learners.

AUTHOR'S NOTE

We, the authors of this paper, state that this paper has never been submitted or published to any other publisher. This paper has been checked for similarity and has been proven to have a score below 20%. We also acknowledge the support from Indonesia Open University and Indonesia Cyber Education Institute for actively supporting this study from the beginning of research planning into the final part of result publication.

https://doi.org/10.17509/jik.v21i4.76161

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