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Usage Status, Usage Requirements, and Satisfaction in Using Massive Open Online Course (MOOC) for General Education Courses at Rajamangala University of Technology Srivijaya

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Abstract

The primary objective of the present study was to comprehensively evaluate the utilization, requisites, and contentment associated with the implementation of the Massive Open Online Course (MOOC) system in general education courses at Rajamangala University of Technology Srivijaya. Furthermore, a comparative analysis was conducted to examine potential variations in usage status, requirements, and satisfaction among different demographic groups, including gender, age, year of study, campus, and faculty. A meticulously designed questionnaire was administered to a sample of 279 students selected by stratified random sampling. The findings unequivocally demonstrate the educational advantages of employing the MOOC system, underscoring its effectiveness in augmenting participants' learning experiences. The study unequivocally identified accessibility, interaction, independence, collaborative learning, learning resources, and teaching methods as pivotal prerequisites for an optimal MOOC system. Moreover, the overall level of contentment among the participants was consistently high. Significantly, the faculty variable exhibited a substantial influence on satisfaction with the MOOC system. This notable disparity in satisfaction may be ascribed to the distinctive learning characteristics, technological proficiency, and educational backgrounds prevalent across diverse faculties. The outcomes of this study make a valuable contribution to the existing body of literature by highlighting the significance of customizing MOOC systems to align with the specific requirements and preferences of students within distinct faculties. Future research endeavors should concentrate on exploring faculty-specific features and devising targeted strategies to optimize satisfaction levels and learning outcomes within MOOC-based educational environments.

Keywords: MOOCs, need analysis, general education, higher education

1. Introduction

A Massive Open Online Course (MOOC) is an online learning platform that offers courses designed for unlimited participation and open access via the internet (Baturay, 2015; Hoy, 2014). MOOCs typically feature video lectures, interactive assignments, and discussion forums to facilitate engagement and learning (Gore, 2012). These courses are provided by various educational institutions, universities, and online platforms. MOOCs have the potential to significantly impact higher education. They offer several advantages, including access to high-quality educational resources from prestigious institutions that may otherwise be geographically inaccessible to learners. MOOCs provide flexibility, allowing students to learn at their own pace and fit their studies into their busy schedules (Zhang, 2013). They also foster global connections and networking opportunities, as learners from different backgrounds and locations can interact and collaborate on course materials.

MOOCs are particularly suitable for the learning nature of undergraduate learners. Undergraduate students often have diverse interests and varying schedules, and MOOCs provide the flexibility to explore a wide range of subjects and learn at their own pace. The self-paced nature of MOOCs allows undergraduate learners to delve into topics of interest, supplement their coursework, or explore new areas outside their major (Tayag & Tayag, 2020). Furthermore, MOOCs offer interactive elements such as quizzes, assignments, and discussion forums, which encourage active learning and engagement. These features provide opportunities for undergraduate

learners to reinforce their understanding of the material, collaborate with peers, and gain practical skills relevant to their fields of study (Li et al., 2019). In addition, MOOCs also cater to the digital nature of today's undergraduate learners. Growing up in a technology-driven era, undergraduate students are accustomed to using digital resources and platforms for their educational needs (Wong et al., 2018). MOOCs leverage technology to deliver course content in engaging and interactive formats, enhancing the learning experience for undergraduate students.

Especially in general education courses, where students may not require a deep understanding of the subjects, MOOCs prove to be particularly helpful. These courses provide an avenue for students to develop their knowledge and gain exposure to various disciplines (Head, 2014). Since most MOOC contents are designed to be accessible and not overly difficult, students can engage in self-directed learning and make use of MOOCs as a valuable resource. MOOCs offer a wide range of general education courses that cover subjects such as literature, history, mathematics, social sciences, and more. The content is often presented in a user-friendly manner, making it easier for students to grasp the fundamental concepts and acquire a basic understanding of the subjects (Yuan & Powell, 2013). Students can explore these courses at their own pace, rewatch lectures if needed, and access additional resources to reinforce their learning.

Rajamangala University of Technology Srivijaya recognizes the importance of supporting general education courses through the provision of a MOOC system. The university offers online resources for all courses, including general education subjects, to enhance the learning experience for students. However, the development and implementation of any system, including the MOOC platform, requires a thorough analysis of the usage states, requirements, and user needs. By conducting a comprehensive assessment of the current state of usage, understanding the specific requirements of the system, and taking into account the needs and expectations of the users, the university can ensure the effective utilization and success of the MOOC platform. This analysis would facilitate the alignment of the MOOC system with the educational objectives of the university and cater to the diverse learning needs of students in their general education courses.

Scholars have put forth various principles in the design of MOOC systems (Ahmad et al., 2022; Albelbisi, 2020; Chunwijitra et al., 2020; Drake et al., 2015). To conclude, the key components are accessibility, interaction, independence, collaborative learning, learning resources, and teaching methods. Accessibility refers to ensuring that the MOOC system is readily available and easily accessible to learners, allowing them to participate and engage with the course materials and activities. Interaction emphasizes the importance of fostering communication and engagement among learners, as well as between learners and instructors, through discussions, forums, and other interactive features. Independence entails providing learners with the autonomy to pace their learning and navigate the course content at their own convenience, promoting self-directed learning. Collaborative learning encourages learners to collaborate and work together, fostering a sense of community and enabling peer-to-peer knowledge sharing and support. Learning resources encompass a wide range of materials, such as readings, videos, quizzes, and assignments, that facilitate the acquisition of knowledge and skills. Finally, teaching methods encompass the pedagogical approaches employed by instructors to deliver the course content, engage learners, and facilitate effective learning experiences. By considering and implementing these principles and components, MOOC systems can be designed to enhance learning outcomes and create meaningful educational experiences for learners.

Scholars have extensively explored the benefits and potential applications of Massive Open Online Courses (MOOCs) in education (Alyoussef, 2021; Ji & Cao, 2016; Mi, 2022; Nath et al., 2014; Tsai et al., 2018). Alyoussef (2021) focuses on the significance of Task-Technology Fit (TTF) in the acceptance of MOOCs for promoting sustainability in higher education. Ji and Cao (2016) identify the promising prospects of utilizing MOOCs for teacher professional development in China. Mi (2022) presents an English education tutoring teaching system based on MOOCs as an effective means of improvement. Nath et al. (2014) highlight the positive impact of MOOCs through a pilot study conducted in the Indian higher education context. Tsai et al. (2018) investigate the development of metacognitive skills and online learning interest among learners utilizing MOOCs. Collectively, these studies contribute to the comprehensive understanding of MOOCs' acceptance, application, impact, and the factors influencing learner engagement and continuation in MOOC-based learning environments. The findings emphasize the potential of MOOCs in enhancing sustainability, facilitating teacher professional development, enabling subject-specific tutoring, influencing institutions, and highlighting the role of metacognitive strategies in fostering learner interest and persistence. The primary objective of the current study is to examine the usage status, usage requirements, and satisfaction levels of MOOCs in the context of teaching General Education courses. The study aims to evaluate the effectiveness of the MOOC system and gain a comprehensive understanding of its strengths and areas for improvement. By assessing the usage patterns,

identifying the specific requirements of users, and measuring their satisfaction, the study seeks to provide valuable insights that can contribute to enhancing the MOOC system's overall quality and effectiveness in delivering General Education courses. The purposes of the study were to investigate the usage status in using Massive Open Online Course (MOOC) for general education courses at Rajamangala University of Technology Srivijaya, to investigate the usage requirements in using Massive Open Online Course (MOOC) for general education courses at Rajamangala University of Technology Srivijaya, to investigate students' satisfaction in using Massive Open Online Course (MOOC) for general education courses at Rajamangala University of Technology Srivijaya, and to compare the usage status, usage requirements, and satisfaction in using Massive Open Online Course (MOOC) for general education courses at Rajamangala University of Technology Srivijaya using gender, age, year of study, campus, and faculty as variables.

2. Methodology

2.1 Research Design

The research design for this study adopts a descriptive approach and employs the survey method to investigate three key aspects: usage states, requirements, and user needs. By utilizing a descriptive approach, the study aims to provide an accurate and detailed depiction of the current state of usage, identify the specific requirements of the MOOC system, and gain insights into the users' satisfaction with the system. The research design ensures a systematic and rigorous exploration of these aspects, providing valuable insights for enhancing the design, development, and implementation of the MOOC system at Rajamangala University of Technology Srivijaya.

2.2 Samples

The sample for this study was selected using Yamane's (1967) formula combined with stratified sampling methods. The sample was 369 students selected from the target population consisting of 4,739 students enrolled at Rajamangala University of Technology Srivijaya. The primary objective was to ensure that the sample adequately represented different strata within the population. Stratified sampling was employed to divide the population into homogeneous groups or strata based on predetermined criteria, such as academic program or year of study.

2.3 Instrument

The instrument used in this study was a questionnaire consisting of four parts: background information, usage status, usage requirements, and satisfaction. The questionnaire aimed to investigate the usage status, usage requirements, and satisfaction in using Massive Open Online Course (MOOC) for general education courses at Rajamangala University of Technology Srivijaya. It comprised a total of 48 items, with 9 items related to usage status, 24 items on usage requirements, and 15 items on satisfaction. The reliability of the questionnaire was assessed using Cronbach's alpha, with a coefficient range of 0.5 to 1.0 indicating acceptable internal consistency. The questionnaire structure included collecting demographic information in the background information section, assessing current usage status in the usage status section, and exploring factors influencing usage in the usage requirements section.

2.4 Data Analysis

Data for this study were collected between July and August 2020, during a period when the COVID-19 pandemic necessitated online learning, making the Massive Open Online Course (MOOC) system particularly influential at Rajamangala University of Technology Srivijaya. The questionnaire responses provided by the participants were analyzed using various statistical techniques. Mean scores, percentages, and standard deviations were computed to understand the participants' perceptions. Additionally, t-tests were employed to compare mean scores between groups, while one-way ANOVA was used to examine variations among multiple groups. These analyses helped in gaining insights into the participants' usage status, usage requirements, and satisfaction in using MOOCs for general education courses.

3. Results

3.1 Demographic of the Samples

Table 1. Demographic of the samples

Gender (n, %)	Age (n, %)	Year of study (n, %)	Campus (n, %)	Faculty (n, %)
Male (131, 35.5%)	15–20 (154, 14.7%)	1 (100, 27.1%)	Nakhon Sri Thammarat (323, 87.5%)	Faculty of Agriculture (98, 26.6%)
Female (238, 64.5%)	20–25 (213, 57.7%)	2 (59, 16%)	Songkha (40, 10.8%)	Faculty of Technology and Management (69, 18.7%)
	26–30 (2, 0.5%)	3 (123, 33.3%)	Trung (6, 1.6%)	Faculty of Science and Technology (67, 18.2%)
		4 (87, 23.6%)		Faculty of Agro-Industry (51, 13.8%)
				Faculty of Engineering (32, 8.7%)
				Faculty of Veterinary Science (19, 5.1%)
				Faculty of Business Administration (10, 2.7%)
				College of Industrial Technology and Management (10, 2.7%)
				College of Geography (5, 1.4%)
				Faculty of Science and Fisheries Technology (5, 1.4%)
				College of Hotel and Tourism Management (3, 0.8%)

There were 131male participants (35.5%) and 238 female participants (64.5%). The participants were categorized into different age groups. Among them, 154 participants (14.7%) fell within the age group of 15–20, 213 participants (57.7%) fell within the age group of 20–25, and there were 2 participants (0.5%) in the age group of 26–30. Moreover, there were 100 participants (27.1%) in the first year, 59 participants (16%) in the second year, 123 participants (33.3%) in the third year, and 87 participants (23.6%) in the fourth year. In terms of campus, 323 participants (87.5%) were from Nakhon Sri Thammarat campus, 40 participants (10.8%) were from Songkha campus, and 6 participants (1.6%) were from Trung campus. The samples were chosen from various faculties. There were 98 students from the Faculty of Agriculture (26.6%), 69 students from the Faculty of Technology and Management (18.7%), 67 students from the Faculty of Science and Technology (18.2%) 51 students from the Faculty of Agro-Industry (13.8%), 32 students from the Faculty of Engineering (8.7%), 19 students from the Faculty of Veterinary Science (5.1%) 10 students from the Faculty of Business Administration (2.7%), 10 students from the College of Industrial Technology and Management (2.7%) 5 students from the College of Geography (1.4%), 5 students from the Faculty of Science and Fisheries Technology (1.4%) and 3 students from the College of Hotel and Tourism Management (0.8%).

3.2 Usage Status of the MOOC System

Table 2. The usage status of the MOOC system

Items	Mean score	S.D	Interpretation
Students have registered for courses through the network system.	3.74	0.93	High
Students are familiar with open online learning resources such as Massive Open Online Courses (MOOCs).	3.71	0.95	High
Students are familiar with open online learning resources (MOOCs) as it is assigned by instructors.	3.92	1.12	High
Students are familiar with open online learning resources (MOOCs) as they search for on their own.	3.80	1.05	High
Students are familiar with open online learning resources (MOOCs) as they are recommended by friends.	3.63	1.08	High
Students are familiar with open online learning resources (MOOCs) from other sources, such as educational websites, Facebook, LINE, advertisements in various publications, brochures, etc.	3.80	1.05	High
Students have visited courses in open online learning resources (MOOCs) from foreign universities.	3.38	1.20	Average
Students have used open online learning resources (MOOCs) to enhance their knowledge or skills for their own learning and practical work.	3.67	1.06	High
Students perceive that their institution utilizes open online learning resources (MOOCs) for instructional purposes.	3.64	1.08	High
Average	**3.70**	**0.86**	**High**

The results of the study demonstrate that the sample shows a high level of engagement with the MOOC system, as indicated by a mean score of 3.70 (SD = 0.86). The participants have become familiar with the MOOC system through various channels, including recommendations from instructors and friends, as well as their own initiative in searching for relevant resources. This indicates that they actively seek out the MOOC system to enhance their skills and educational pursuits. The findings highlight the effectiveness of the MOOC system in supporting the participants' educational goals and their proactive approach to utilizing online learning platforms.

3.3 Usage Requirements of the MOOC System

Table 3. Usage requirements of the MOOC system

Items	Mean score	S.D	interpretation
Accessibility			
MOOCs should provide opportunities for interested individuals to enroll and register on their own.	3.96	0.86	High
MOOCs should be accessible through various platforms, such as mobile devices, tablets, and computers.	4.01	0.93	High
MOOCs should offer free-of-charge teaching and learning experiences.	4.01	0.94	High
MOOCs should be able to accommodate the needs of learners without any limitations on the number of participants.	4.04	0.91	High
Average	**4.00**	**0.91**	**High**
Interaction			
MOOCs should facilitate continuous interaction between learners.	3.95	0.88	High
MOOCs should enable instructors to interact with learners throughout the learning process.	4.00	0.92	High
MOOCs should incorporate exercises that emphasize questioning to encourage learner participation, expression of opinions, and debate on various topics.	3.94	0.91	High
Average	**3.96**	**0.83**	**High**
Independence			
MOOCs should provide learners with the opportunity to freely choose and study topics of their interest without limitations on the number of participants.	4.02	0.94	High
MOOCs should allow learners to study at their own pace without any restrictions.	3.87	0.92	High
MOOCs should allow learners to download content-related documents or materials.	4.06	0.89	High
MOOCs should offer courses that are open to the general public, allowing individuals who are not members to register if they have an interest.	3.98	0.90	High
Average	**3.98**	**0.80**	**High**
Collaborative learning			
MOOCs should support continuous knowledge sharing among learners, instructors, and various learning communities.	3.97	0.91	High
MOOCs should foster the creation of learning communities among learners themselves.	3.95	0.92	High
MOOCs should provide diverse online social media platforms as tools for connecting and communicating, enabling the exchange and sharing of knowledge among learners.	3.98	0.90	High
Average	**3.96**	**0.85**	High
Learning resource			
MOOCs should be a repository of up-to-date and beneficial knowledge for learners.	3.98	0.89	High
MOOCs should serve as a platform for collecting and sharing learning resources from various educational institutions for collaborative use.	3.95	0.92	High
Average	**3.96**	**0.85**	**High**
Teaching method			
MOOCs should provide opportunities for self-directed learning and independent practice.	3.91	0.91	High
MOOCs should clearly outline learning methods, objectives, and expectations.	3.99	0.92	High
MOOCs should include problem-solving exercises as a primary focus and encourage learner participation, expression of opinions, and debate on specific topics.	3.96	0.91	High
MOOCs should include case studies to facilitate learning from real-life examples and encourage learner participation in expressing their thoughts and opinions on various issues.	3.94	0.87	High
MOOCs should have a self-assessment system that allows learners to evaluate their own learning progress.	3.93	0.91	High
MOOCs should have a peer assessment system that enables learners to evaluate each other's learning progress.	3.90	0.93	High
MOOCs should have an instructor assessment system where instructors assess the learning progress of the learners.	3.96	0.87	High
MOOCs should provide certification upon successful completion of learning assessments based on criteria set by recognized institutions.	3.96	0.90	High
Average	**3.94**	**0.79**	**High**
Overall	**4.14**	**0.79**	**High**

The findings of the study reveal a high level of requirement for the MOOC system, as indicated by a mean score of 4.14 (SD = 0.79). Specifically, the participants identified several key requirements of the MOOC system, including accessibility, interaction, independence, collaborative learning, learning resources, and teaching methods. These findings highlight the importance placed by the samples on being able to access the system easily, engaging in interactive learning experiences, having the freedom to learn independently, fostering collaborative learning opportunities, utilizing comprehensive learning resources, and experiencing effective teaching methods. Overall, these requirements demonstrate the significance of these factors in shaping the participants' preferences and expectations regarding the MOOC system for general education courses at Rajamangala University of Technology Srivijaya.

3.4 Satisfaction with the MOOC System

Table 4. Satisfaction with the MOOC system

Items	Mean score	S.D	Interpretation
Lesson development aligns with the course content, course description, objectives, and assessment in the subject.	3.98	0.91	High
Content and examples presented in the lessons are arranged in an increasing level of difficulty.	3.97	0.89	High
The content and examples of the lessons are clear and easy to understand.	3.94	0.93	High
Learning on the open online learning resource platform for the masses (MOOC) improves learners' understanding of the lesson content.	3.96	0.91	High
Learners can review or repeat lessons on the open online learning resource platform for the masses (MOOC) when they don't understand the lesson.	3.97	0.90	High
The nature of learning activities on the open online learning resource platform for the masses (MOOC) emphasizes learner-centered approaches.	3.96	0.86	High
The presentation of content and examples in the lessons aligns with learners' needs.	3.95	0.90	High
Learning activities on the open online learning resource platform for the masses (MOOC) provide opportunities for learners to participate in learning throughout the course.	3.96	0.91	High
Learning activities on the open online learning resource platform for the masses (MOOC) increase learners' enthusiasm for learning.	3.95	0.91	High
Learners can engage in discussions and interact with instructors and peers through the network on the open online learning resource platform for the masses (MOOC).	3.95	0.92	High
Learning activities on the open online learning resource platform for the masses (MOOC) enable learners to assess their knowledge and understanding of the content.	3.92	0.90	High
Learners receive prompt feedback and responses through learning activities on the open online learning resource platform for the masses (MOOC).	3.92	0.92	High
The open online learning resource platform for the masses (MOOC) is suitable as a teaching and learning medium.	3.92	0.95	High
The recommendations provided in the learning activities on the open online learning resource platform for the masses (MOOC) are accurate and appropriate.	3.93	0.93	High
The feedback received in the learning activities on the open online learning resource platform for the masses (MOOC) promotes learning and enjoyment.	3.96	0.94	High
Overall	**3.95**	**0.80**	**High**

The findings indicate that the samples expressed a high level of satisfaction with the MOOC system used for general education courses at Rajamangala University of Technology Srivijaya (Mean score = 3.95, S.D = 0.80). Specifically, the samples reported satisfaction with various aspects, including the learning activities provided through the platform, the prompts and instructions given during the course, the availability and usefulness of online learning resources, and the feedback received on their performance. These results highlight the positive perception of the samples towards the MOOC system and its components, suggesting that it effectively meets their educational needs and enhances their learning experience.

3.5 Comparison of the Results

In this study, we employed gender, age, year of study, campus, and faculty as independent variables to investigate potential variations among student groups in terms of their utilization, requirements, and satisfaction levels pertaining to the MOOCs system. Our analyses revealed that the sole differentiating factor was the students' faculty affiliation, as evidenced by varying degrees of satisfaction with the MOOCs system across

different faculties, as presented in the tabulated results.

Table 5. Comparison of satisfaction of students with different faculties

Variable	SS	df	MS	F	Sig.
Between group	11.997	10	1.200	1.926*	.041
Within group	222.971	358	.623		
Total	234.968	368			

Note. *p > 0.05.

The results of the one-way ANOVA analysis revealed a statistically significant difference among the groups based on the variables of faculty. The between-group analysis showed that the variability between the groups, as measured by the sum of squares (SS), was 11.997. With 10 degrees of freedom (df), the mean squares (MS) was calculated as 1.200. The F-value of 1.926 indicated that the between-group variability was significantly different. The associated significance level (Sig.) was 0.041, indicating that the observed difference was unlikely to occur by chance alone. The within-group analysis demonstrated that the variability within each group, measured by SS of 222.971 and 358 degrees of freedom (df), yielded an MS of 0.623. The total sum of squares (SS) was 234.968, with 368 degrees of freedom (df). Overall, these findings suggest that while there were no significant differences observed among the variables in terms of the use of the MOOCs system, there were significant variations in satisfaction levels based on the different faculties, as indicated in the provided table.

4. Discussion

The results of the study provide empirical evidence supporting the advantages of MOOCs in the context of General Education courses, as students reported finding them beneficial for their studies. These findings are consistent with prior research conducted by Alyoussef (2021), Ji and Cao (2016), Mi (2022), Nath et al. (2014), and Tsai et al. (2018), which also highlight the positive impacts of MOOCs in educational settings. The suitability of MOOCs for undergraduate education is evident, as they cater to the diverse learning styles of students, offering a flexible and adaptable learning environment that accommodates individual preferences. This underscores the potential of MOOCs to enhance the teaching and learning experiences in general education, providing students with valuable opportunities to engage with the subject matter effectively.

The findings also reveal that the development of MOOCs necessitates the consideration of various requirements, including accessibility, interaction, independence, collaborative learning, learning resources, and teaching methods. These identified requirements align with previous literature on MOOC development, as demonstrated by the works of Ahmad et al. (2022), Albelbisi (2020), Chunwijitra et al. (2020), and Drake et al. (2015), who also emphasize the significance of these components in the design and implementation of MOOCs. The consistent recognition of these qualities underscores their importance in ensuring the effectiveness and utility of MOOCs. Accessibility ensures that learners can easily access and navigate the course materials, while interaction promotes engagement and active participation. Independence allows learners to progress at their own pace and personalize their learning experience, while collaborative learning fosters cooperation and knowledge sharing among participants. Adequate learning resources and effective teaching methods contribute to a rich and meaningful learning environment. Overall, incorporating these components in MOOC development contributes to the overall quality and benefits of such online learning platforms.

It was observed that the faculty of students emerged as a significant variable that influenced their satisfaction with the MOOC system. This disparity in satisfaction could be attributed to the distinct learning styles and diverse technological competencies and experiences among students from different faculties. Each faculty may have its own unique educational requirements, subject areas, and teaching approaches, which could shape students' expectations and perceptions of the MOOC system. Moreover, students' prior knowledge and familiarity with technology, as well as their level of engagement in practical learning experiences, could also contribute to the variation in satisfaction levels. Therefore, considering these factors becomes crucial for developing customized and effective MOOC systems that cater to the specific needs and preferences of students from different faculties. Future research could delve further into exploring the specific characteristics and requirements of each faculty to devise targeted strategies for enhancing satisfaction and optimizing the learning outcomes in MOOC-based educational settings.

5. Conclusion

The current study aimed to comprehensively assess the usage status, requirements, and satisfaction with the

Massive Open Online Course (MOOC) system utilized for general education courses at Rajamangala University of Technology Srivijaya. Additionally, a comparative analysis was conducted to investigate the differences in usage status, requirements, and satisfaction based on gender, age, year of study, campus, and faculty as variables. A well-structured questionnaire was developed and administered to a sample of 279 students. The findings provide compelling evidence of the educational benefits derived from the implementation of the MOOC system, highlighting its effectiveness in enhancing participants' learning experiences. The study revealed that accessibility, interaction, independence, collaborative learning, learning resources, and teaching methods emerged as crucial requirements for an optimal MOOC system. Moreover, the overall satisfaction level among the participants was found to be high. Notably, the faculty variable demonstrated a significant influence on satisfaction with the MOOC system. This disparity in satisfaction may be attributed to the distinct learning characteristics, technological proficiency, and educational backgrounds prevalent across different faculties. The study outcomes contribute to the existing literature by emphasizing the importance of tailoring MOOC systems to meet the specific requirements and preferences of students across various faculties. Further research endeavors should focus on exploring faculty-specific features and developing targeted strategies to optimize satisfaction and learning outcomes within MOOC-based educational settings.

The findings of this study have important pedagogical and academic implications. Firstly, the identification of key requirements for an effective MOOC system, including accessibility, interaction, independence, collaborative learning, learning resources, and teaching methods, provides valuable insights for educational institutions and course designers. By incorporating these elements into the design and implementation of MOOCs, educators can enhance the overall learning experience and promote student engagement and satisfaction. Additionally, the significance of the faculty variable highlights the need for faculty-specific approaches in MOOC development and implementation to address the diverse learning needs and preferences of students across different disciplines.

In terms of academic implications, this study contributes to the existing literature on MOOCs in the context of general education courses. The findings align with previous research, supporting the notion that MOOCs can be a beneficial tool for enhancing learning outcomes and fostering student engagement. The quantitative approach employed in this study strengthens the empirical evidence regarding the usage status, requirements, and satisfaction with MOOCs, providing a solid foundation for future research and scholarly discussions.

Considering the limitations of this study, it is important to acknowledge that the use of only quantitative methods restricted the depth of understanding of participants' experiences and perspectives. Future studies could complement the quantitative approach with qualitative methods to gain richer insights into the nuances and complexities of students' experiences with MOOCs. Additionally, the sample size was limited to students from a single university, which may affect the generalizability of the findings. Replicating this study with larger and more diverse samples from multiple educational institutions would enhance the external validity of the results.

Based on these findings and limitations, several recommendations can be made. Firstly, educational institutions should prioritize the integration of MOOCs into their general education courses, paying particular attention to the identified requirements for an effective MOOC system. Course designers and instructors should actively engage in the development and implementation of MOOCs, ensuring that the pedagogical principles and interactive features are aligned with the learning objectives and the needs of diverse student populations. Furthermore, future research should adopt a mixed-methods approach to gain a comprehensive understanding of students' experiences and perceptions of MOOCs, thereby informing the design and improvement of MOOC-based educational initiatives.

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