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| RESEARCH ARTICLE

Awareness and Utilization of Massive Open Online Courses (MOOCs) of College Students and Teachers in Selected Philippine Higher Education Institutions

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| ABSTRACT
Massive Open Online Course (MOOC) are open online courses aimed at massive groups of learners that anyone anywhere can access as long as they have the internet. This study aimed to determine the awareness and utilization of MOOCs by faculty and students of selected higher education institutions (HEIs) in the Philippines. Descriptive correlational analysis was used to determine the awareness and utilization of MOOC among the selected HEI faculty and students. Moderate awareness and usage of MOOCs by teachers and students. It found that teachers' years of teaching were significantly correlated with their level of MOOC awareness. It also shows a big correlation between students enrolling well in courses based on their understanding of MOOCs. Moreover, it shows that teachers' MOOC usages correlate to their teaching years. MOOC utilization has a significant relationship with the students' ages. Integrating the MOOC into curricula should be promoted by the HEIs, where tailored usage could be encouraged to leverage its potential and address teachers' and college student's unique needs and preferences. The researchers suggested implementing, monitoring, and evaluating the proposed learning enhancement plan.

| KEYWORDS
MOOC, awareness, utilization, Philippines

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1. Introduction

The turn of the millennium brought the global economy and networked society, which changed our lives and introduced educational challenges and complexities. It transformed education's delivery, content, and function. On the one hand, stakeholders are squeezed to transform educational practices. They seek to make them more adaptable and sensitive to context, suggesting a more individualized learning experience.

In like manner, they are positively pressuring institutions to adopt innovative practices of competency-based evaluation and certification (Teixeira et al., 2019). MOOCs have been acknowledged as a remarkable innovation in higher education, attracting learning audiences worldwide (Ossiannilsson et al., 2016). MOOCs are a type of course that, as the name implies, is designed for large numbers of people and can be taken by anyone, anywhere, as long as they have Internet access. Anyone can join without entry qualifications. Weinhardt and Sitzmann (2019) describe it as providing a full-fledged online course experience with free and open enrollment, a publicly available syllabus, and an open-ended outcome.

Not only to decrease the costs but also to become more sustainable where, on a larger level, they can involve and serve many more learners. What are the characteristics of good learning through digital technologies, particularly the Internet and social

media, that can lead to new ways to develop and deliver those 21st-century skills and knowledge that learners need? This has created a global narrative for HEIs to scale digital education. Of course, technology-enhanced learning is now a mainstream practice in HEIs, and due to the major influence of the MOOC initiative, more and more HEIs have some open education experience. This scenario would indicate the new hegemony of the distance education universities' model in higher education systems.

From the perspective of the social, economic, and technological environment, distance education universities are becoming the most complex and fascinating environment with new challenges and opportunities (Garlinska et al., 2023). As globalization and the Internet continue to impact societies and communities, protecting the privileged has emerged as a topical theme over the last decade, with increasing calls from various stakeholders for higher education provision to be better, more scalable, interoperable, and flexible. When universities and other HEIs worldwide have provided significant access to digital and open learning opportunities, it is through the widespread use of technology (Cunha et al., 2020).

Distance education universities are in an interesting paradox, though. Although technology-enhanced learning became standard practice in higher education and many institutions adopted open educational practices, emerging competitors propagated the myth that institutions no longer needed research-informed expertise, specialized infrastructure, and skilled people to operate successfully. According to Kahn (2016), there is a significant global demand for open education, which results in recognized qualifications. Particular attention is given to groups of people who do not correspond with the regular admission laws and standards of academic institutions, especially those who come from a violent country, older people with experience, and minorities. For distance education universities like MOOCs, this is uncharted waters.

Etcuban et al. revealed from their research (2013) that the faculty needs personal, technical, conceptual, and professional skills relevant to continuing development in both the activities occurring in the school and outside of the school. ICT is becoming universal in university education. This aligns with UNESCO's policy paper on change and growth in higher education, which calls on HEIs to take advantage of the opportunities that the progress in communication technology brings to enhance not only the delivery of their education but also the quality of their education (Alenezi et al., 2023).

MOOCs are courses designed for very large-scale participation. If a person has an internet connection, these courses are accessible anywhere (Loeckx, 2016). MOOCs – A complete online course is open to all, without any qualification requirement. Course Formats offer free and open registration, a publicly shared curriculum, and an open-ended outcome (Lambert, 2020; Clow, 2013).

The training for MOOCs has been positive for some instructors who have seen the potential offered by reaching a global audience, while at the same time, others have reported issues such as technology and time. How much faculty know about and use MOOCs may considerably influence their adoption and effectiveness in the educational process. Professional development activities are essential to the success of MOOC adoption and use (seeking to pursue this opportunity). To leverage these emerging innovations, HEIs have published a set of MOOC policies, principles, and guidelines to harmonize the implementation, deployment, and acceptance of MOOCs within their academic context. Moreover, lifelong learning is essential for the future viability of many academic institutions. The HEI must be ready to cope with these changes, which depends significantly on HEI leadership and management. The working students represent the principal audience for open universities and MOOC providers.

2. Literature Review

The fundamental theories underlying this study include Everett Rogers's Diffusion of Innovation Theory (1962), Deci and Ryan's Self-Determination Theory (2000), and Paul Glister's Digital Literacy and Access Theory (1997). This is also supported by the following legal bases in the Philippines: Republic Act No. 10931 (Universal Access to Quality Tertiary Education Act) Republic Act No. 10650 (Open Distance Learning Act) Republic Act No. 10844 (Department of Information and Communications Technology Act of 2015).

This follows the assumption of Everett Rogers' Diffusion of Innovations Theory (1962) that both awareness and consumption of MOOCs are based on individuals' adoption of new technology or innovations (Adeaba, 2023). MOOCs can attract only individuals interested in online tools and technology itself, and this is one of the root problems because it is a fundamental assumption that tech-savvy learners or tech-savvy teachers/professionals (whether we like it or not) are the first MOOCs will explore that and this leads them to questions because they are more curious and open to new learning methods (Asokkumar et al., 2024; Sari et al., 2020).

Self-Determination Theory (SDT) (Deci & Ryan, 2000) explains that both intrinsic and extrinsic motivations are important for MOOC awareness and usage (Sun et al., 2019). Individuals looking to develop themselves or learn something new tend to take MOOCs (Dai et al., 2020). External incentives like free access, certifications, or professional recognition increase usage. MOOCs have the potential to expand users and provide them with flexible and on-demand learning pathways, enhancing autonomy and promoting user engagement (Zhu et al., 2020).

Digital literacy levels and technological access correlate with awareness and use of a MOOC. This is more true in populations with excellent digital skills and internet use (Chatwattana, 2021). The provision of devices, internet connectivity, and interface usability affect usage. Amjad et al. (2024) have limited access through systemic barriers, creating less awareness and participation among marginal communities. With knowledge of HEIs, governments, and MOOC providers, it can be possible to fill the gaps and promote inclusivity.

Republic Act No. 10931 (Universal Access to Quality Tertiary Education Act) responds to the educational initiative of providing free quality tertiary education to all SUCs and LUCs (Cano et al., 2023). The open distance learning explicitly provided in the constitutional articles can also correspond to the MOOC. MOOCs can be incorporated into the curriculum or offered in addition to SUCs and LUCs or used as open educational resources.

The Open Distance Learning Act of 2014, or Republic Act 10650, institutionalizes in the Philippines the provision of open distance and flexible learning and technology-enhanced programs that an academic institution can offer (Serrano et al., 2020). The development and utilization of MOOCs are supported under the legal framework of the country's open and distance learning initiatives. The DICT shall promote digital literacy and ensure universal access to ICT services as stipulated by Republic Act 10844 (Department of Information and Communications Technology Act of 2015), which is one of the prerequisites for MOOC knowledge towards MOOC delivery (Levanta & Ubayubay, 2024). This law promotes better digital infrastructure and enables MOOCs to be adopted and made accessible to the masses in a true sense.

Arpaci et al. (2020) examined the awareness levels of MOOCs among urban university students. The study shows that knowledge management practices positively and significantly impact the usefulness of MOOCs, and knowledge sharing positively and significantly impacts MOOCs' perceived ease of use. The study by Dwivedi et al. (2019) found that the instructor's online time is directly proportional to the time students spend online. Students are more engaged if the teachers answer their questions about online activities promptly. Student engagement increases if the online content has some relation to what is being taught in the syllabus, but it is not as high as attendance in face-to-face lectures in the class. Doo et al. (2020), focused on the faculty use of MOOCs for professional development. The results showed that intrinsic motivation is key to the motivation to teach MOOCs. Importantly, this study categorized MOOC teachers' motivating factors into seven types. Although MOOC teachers found creating MOOCs time-consuming and the general lack of interaction in many MOOCs frustrating, many felt that their experience of teaching a MOOC positively affected their professional development. Most MOOC teachers were self-taught: they learned how to teach MOOCs informally. However, they attempted to assist other MOOC instructors. This study reflects that the professional development of MOOC teachers is a compelling requirement to pursue effective MOOCs.

It has been exposing the MOOC providers for their monopolistic behavior, and we do not regard these mass education suppliers as educational institutions following the standards of their 'educator' umbrella. Most HEIs cannot become partners of the big MOOC providers since they are selective contractors to HEIs. Varying stakeholders now demand various regional approaches to adequately utilize the different aspects of online learning and open online systems for education and development.

The study by Kundu and Bej (2020) found that MOOCs have also been able to serve the learning needs of the learners and teachers of these state universities and are supplementing the existing traditional learning environment at these universities and providing them a constant scope for re-skill and up-skill; however, the participation rate in MOOCs is low which is an alarming situation but the female participation is very low too because of lack of awareness, poor infrastructure facilities and as a result low completion rate. It is argued by Mabuan (2020) that the need for teacher professional development (TPD) among educators in the Philippines, a low-resourced country, must be addressed. It also delved deeper into the experiences and motivations of teachers throughout the Philippines. The findings indicated that teachers considered the MOOC camps a feasible and valuable form of their TPD. While some forms of technology and telecommunications limitations have affected the courses and training, teachers insisted that such courses would help them acquire particular skills to do their work, gain knowledge and skills for their professions, and get certified. They also perceived the benefits of MOOC study in terms of preparing them for further education, getting accustomed to the characteristics and amenities of online mode of study, and even reaching a sense of self-fulfillment. It concludes with suggestions on using MOOCs and MOOC camps for TPD in countries with lower budgets.

Olatokun et al. (2024) researched teachers' knowledge of and experience with MOOCs for teaching. The results show a diversity of perceived hindrances, with a lack of awareness of available MOOCs and lack of institutional support being the closest to moderate concerns. However, factors such as content quality issues, increased workload demands, costs, and concerns about student motivation were not significant barriers. The findings point to a need for widespread professional development, locally relevant development of MOOC content, institutionally-based incentives for MOOC adoption, and more research into student outcomes. AlQaidoom and Shah (2020) examined the digital literacy of teachers in the Arab world who use MOOCs in higher education. Also, it seeks to find out teachers' attitudes toward using MOOC platforms in teaching some higher education courses. MOOCs are adopted by very few HEIs in the Arab world, which has been well documented. However, a specific level of digital literacy is required for MOOC as an e-learning platform for all stakeholders. Teachers are critical stakeholders in that equation. However, the impact of digital literacy on teachers' attitudes toward MOOCs in Arab countries has not been investigated in many studies. Hernandez et al. Carranza-Zuniga et al. (2018) demonstrate that students primarily used MOOCs to study materials not covered in their secondary studies. Students who engaged in these course topics obtained higher scores and passed the diagnostic exam more often than those who did not study with the MOOCs. Students also used MOOCs to prepare for exams and to reinforce concepts for future courses. Rabin et al. (2021) identified overcoming barriers and their predictors. Age, gender, level of self-efficacy, motivation, self-regulated learning skills, and intention to complete the course were the predictors of those barriers to satisfaction. The self-regulation constructs of self-evaluation, study strategies, and help-seeking predicted the barrier's lack of relevance. The barrier of lack of time/bad planning was shown by the self-regulation indices of goal setting, time management, and study strategy, as well as by the respondent's age. High levels of self-efficacy, extrinsic motivation, and the self-regulation index of time management indicated significant barriers and predicted higher behavioral intention for course completion.

These theories, legal bases, related literature, and studies are relevant to understanding college students and teachers' awareness and utilization of MOOCs in Cebu City, Philippines.

3. Objectives of the Study

This study determined the awareness and utilization of MOOCs among faculty and students of selected HEIs in the Philippines. Specifically, it answered the: 1) Profile of the respondent groups; 2) Respondents' level of awareness of MOOCs; 3) Level of MOOC utilization of the respondents; 4) Test of significance of the relationships between the profile of the respondent groups and their level of awareness of MOOC; 5) Test of significance of the difference in the respondents' level of MOOC utilization when grouped by its profiles.

4. Methodology

This section presents the research design, environment, respondents, instrument, data analysis, privacy, and ethical considerations.

4.1 Design

This study employed the descriptive-correlational method to gather data on the awareness and utilization of MOOCs among teachers and students in a Philippine university. Furthermore, it establishes the relationship between the variables and their differences when grouped by their profiles.

4.2 Environment and Respondents

The study was conducted in local, private, and state universities in Central Visayas, Philippines. These HEIs have different course offerings, such as teacher education, technology, business, nursing, engineering, and law studies. The researchers chose the study samples in university settings across the region. The target respondents were the faculty and college students enrolled during the school year 2023-2024. Using purposive sampling, they employed the probability sampling technique to identify the 350 respondents (300 college students and 50 teachers).

4.3 Instrument

This study utilized a three-part questionnaire. The first part gathers the demographic profile of the respondents. The second part is a 15-item researcher-made 4-Likert questionnaire on the respondents' awareness of MOOCs. The third part is a 15-item researcher-made 4-Likert questionnaire on the respondents' utilization of MOOCs. Part 1 of the questionnaire gathers the teacher respondents' profiles, including their age, gender, highest educational attainment, and years of teaching. It also gathers the student respondents' profiles, such as age, gender, and course enrollment. In this section, the students were advised to write their information in the space provided. Part 2 gathers the respondents' awareness regarding MOOCs. This 15-item questionnaire was validated and pilot-tested on 15 teachers and 15 students from another university campus, resulting in a Cronbach alpha of 0.86 (Reliable). In these sections, the respondents are advised to rate the items using the 4-Likert scale: 4 points for Very Aware, 3 points for Moderately Aware, 2 points for Less Aware, and 1 point for Never Aware. Part 3 of the questionnaire is a 15-item researcher-made 4-Likert questionnaire. It underwent content validity and pilot-testing activity, resulting in a Cronbach alpha of 0.92 (highly

reliable). In these sections, the respondents are advised to rate the items using the 4-Likert scale: 4 points for Highly Utilized, 3 points for Moderately Utilized, 2 points for Less Utilized, and 1 point for Never Utilized.

4.4 Data Analysis

The researchers used frequency, simple percentage, mean, and standard deviation to treat the gathered demographic profiles. Weighted mean and standard deviation were used to measure the respondents' awareness and utilization of MOOCs. The Chi-square test of independence was used to treat the significant relationships between the two variables. ANOVA was used to test the significant difference when grouped by its profiles.

5. Results and Discussion

5.1 Profile of the Respondents

Table 1 presents the profile of the respondent groups.

Table 1.
Profile of the Respondent Groups

Profiles	Frequency	Percentage
A.1 Faculty (n = 50)		
Age [in years]		
21 - 30	15	30.00
31 - 40	12	24.00
41 - 50	17	34.00
More than 50	6	12.00
Mean : 37.76		
StDev : 10.75		
Gender		
Female	27	54.00
Male	23	46.00
Highest Educational Qualifications		
College Graduate	16	32.00
Masters Graduate	21	42.00
Doctoral Graduate	13	26.00
Years of Teaching		
1 - 3	6	12.00
4 - 6	8	16.00
7 - 10	8	16.00
More than 10	28	56.00
Mean : 11.66		
StDev : 6.55		
A.2 Students (n = 300)		
Age [in years]		
18 - 21	145	48.33
22 - 25	155	51.67
Mean : 21.57		
StDev : 2.29		
Gender		
Female	174	58.00
Male	126	42.00
Course Enrolled		
Business Administration	66	22.00
Education	62	20.67

Engineering	55	18.33
Information Technology	42	14.00
Others	75	25.00

Most teacher respondents are female, aged 41 to 50, master's graduates, and have been teaching for over 10 years, as shown in the table. This explains that female teachers aged 41 to 50 with master's, doctor's, or senior professional/technical titles are highly experienced and knowledgeable. Still, their sensitivity and attention to MOOCs may vary due to digital factors. Competence, teaching experience, and perceptions of online learning platforms demonstrate variability dependent upon age and teaching practice.

From past literature, female teachers who are 41 to 50 years old, have a master's degree, more than 10 years of teaching experience, and are constant and full-time teachers most likely have different degrees of awareness of MOOCs. This highly experienced and educated population may influence their desire for ongoing learning, such as MOOCs. From a higher education perspective, their previously received education at the graduate level may signify they are professionally motivated; there is a chance they will leverage MOOCs to perform self-trained skill development within their original fields of study whilst staying up to speed on the trends in education research. With their long teaching experience and versatility, MOOCs are the perfect way to provide flexibility and self-paced learning, which fits nicely into their busy schedules.

However, this audience may be less aware of MOOCs than younger teachers, who are more accustomed to online learning technologies or less relevant due to the nature of their established careers. Strategies, including promoting awareness of MOOCs with targeted events or integration into professional learning, must also fill the gap. Getting teachers from this demographic to be engaged with MOOCs would be a significant step in the right direction: There is some incredible stuff going on in the classroom, and now, more than ever, the stakes are high for the individual career path. They can use this in their schools and institutions by providing certification of their MOOC so students will be more focused on this, and they can use it to get better jobs.

A study by Szyszka et al. Digital competence is significantly impacted by age and teaching experience (2022). Older teachers and those with higher seniority often exhibit lower digital skills. Some may have access to other online platforms, such as MOOCs, and some may not. Moreover, studies of faculty experiences in MOOCs indicate that teaching experience influences participation in online courses. It is likely that many MOOCs would not be visible, as this would depend on their visibility and dissemination according to the experience level of faculty (Pellas, 2024). Furthermore, Yu et al. (2024) addressed the effectiveness of MOOC-based professional development and emphasized that content and interaction quality significantly predict perceived learning effectiveness. This shows that expert teachers may not engage with MOOCs in the same way, which is no different from people in many other professions, especially when the ethics of online learning can be so questionable.

Additionally, most responses were provided by female students aged 22 to 25, currently enrolled in the Business Administration program, where most students belong. This indicates that female Business Administration students within the respective age group can use MOOCs to enhance their skill sets and pursue new career opportunities. Those characteristics suggest they are digitally literate and aware of economics, making them better suited to engage with MOOCs. Their cohort also points out the underlying mastery of new technology and online platforms, which corresponds to the digital setup of MOOCs. However, this group's awareness and engagement with MOOCs may differ due to access to career counseling, university backing, and individual ingenuity. This is likely higher, where HEIs actively promote MOOCs as additional resources. In reply to the above, students who lack the means for a mentor or do not see MOOCs as credible will be less likely to utilize these platforms. To get the most out of this demographic, institutions can embed MOOCs into the curriculum, grant academic credits, or feature their place in skill-building and networking. In this sense, the role of MOOC will fill the awareness gap and create a culture for lifelong education.

A study by Aithal et al. (2024) on digital literacy in marketing curricula found that female students have a positive attitude toward using digital tools to support their education, indicating they are prepared to adopt online learning platforms, such as MOOCs. Moreover, programs focusing on women, such as Go Digital ASEAN and business and financial literacy courses, digital marketing, and cybersecurity training, have empowered women to be involved in the digital economy (Wignall et al., 2024). Further, the UN stresses that women's and girls' greater involvement in digital technology and innovation is critical to the world's economies (Mhlanga, 2024), which signifies the need for female students to be engaged in digital learning platforms.

5.2 Respondents' Level of Awareness of MOOCs

Table 2 presents the results of the awareness of teachers and students of MOOCs.

Table 2.
Awareness of Faculty and Students on MOOCs

#	Indicators	Faculty (n = 50)			Students (n = 300)		
		M	SD	Int	M	SD	Int
1.	MOOCs provide an accessible platform for learners from diverse backgrounds.	3.56	0.50	HA	2.44	1.11	LA
2.	The content provided in MOOCs is as effective as traditional classroom learning materials.	2.82	0.98	MA	2.58	1.12	MA
3.	MOOCs encourage active engagement through interactive and collaborative learning activities.	2.58	1.18	MA	2.59	1.12	MA
4.	The MOOC platform I use is always available and easy to access.	3.48	0.51	HA	2.46	1.11	LA
5.	The MOOC platform is compatible with a variety of devices.	2.68	1.00	MA	2.53	1.10	MA
6.	The MOOC platform rarely experiences downtime or technical issues that disrupt my learning experience.	2.34	1.19	LA	2.61	1.09	MA
7.	MOOCs allow me to learn at my own pace and my schedule.	2.60	1.20	MA	2.46	1.11	LA
8.	The MOOC platform provides various courses that meet my learning needs and interests.	2.62	1.16	MA	2.54	1.12	MA
9.	Participating in MOOCs has helped me develop new skills.	3.58	0.50	HA	2.55	1.11	MA
10.	MOOC certificates are valuable and recognized in professional or academic settings.	3.48	0.51	HA	2.59	1.14	MA
11.	The process of earning a certificate through a MOOC is straightforward and achievable.	2.62	1.11	MA	2.61	1.11	MA
12.	The cost of obtaining a certificate from a MOOC platform is reasonable and affordable.	3.50	0.51	HA	2.58	1.09	MA
13.	The knowledge gained from MOOCs can be directly applied to real-world situations.	2.94	1.15	MA	2.50	1.13	MA
14.	The content of MOOCs aligns with my career objectives and professional development needs.	2.44	1.09	LA	2.55	1.10	MA
15.	The courses offered on MOOCs provide up-to-date and relevant information for my field of interest.	2.48	1.13	LA	2.54	1.13	MA
	Aggregate :	**2.91**	**0.91**	**MA**	**2.54**	**1.11**	**MA**

Legend:
1.00-1.74 Not Aware [NA]; 1.75-2.49 Less Aware [LA]; 2.50-3.24 Moderately Aware [MA]; 3.25-4.00 Highly Aware [HA]

The table indicated that the teacher respondents had moderate awareness of MOOCs, evidenced by an aggregate mean of 2.91 and a standard deviation of 0.91. The mean and standard deviation for the indicator "Participating in MOOCs has helped me develop new skills" was computed to be the highest of 3.58 (Highly Aware) and a standard deviation of 0.50. Moreover, the indicator "MOOCs provide an accessible platform for learners from diverse backgrounds" had the lowest mean value of 2.34 (Less Aware) and a standard deviation of 1.19. MOOCs have important implications for teacher skills development and professional growth". MOOCs offer teachers flexible, affordable, and diverse learning experiences often inaccessible through traditional professional development programming. This homemade modding system, so much better than a college course, molds teachers in all areas by exposing them to best practices from around the globe, innovative teaching methodologies, and subject-specific advances, and they can try it directly in the classroom. Perhaps the most profound effect is in digital literacy. Teachers gain firsthand practice with digital tools and platforms, preparing to integrate technology into their lesson plans. This is especially vital in today's digital era, where virtual learning and hybrid teaching models are rising.

MOOCs are fun, free, and an excellent way for teachers to build their knowledge and skills. MOOCs are a good way for teachers who want to grow professionally, especially during summer when they might have more time to take these courses (Diordieva & Bonk, 2023; Ruipérez-Valiente et al., 2022). According to Weng et al. (2024), MOOCs promote collaborative learning. They allow teachers to connect with people around the globe, share audit experiences, and share great ideas. This teamwork develops essential skills, like critical thinking, problem-solving, and communication skills necessary for modern-day teachers. According to

Williams's study (2024), MOOCs allow teachers to engage with high-quality resources, making integrating skills and other knowledge gained in the course into their teaching easier.

As depicted in the table, student respondents had moderate awareness of MOOCs, with an aggregate mean of 2.61 and a standard deviation of 1.11. Furthermore, respondents rated indicators related to low downtime, the ability of MOOC platforms not to disrupt learners' experience, and the ease of earning certification substantially higher, with means of 2.61 (Moderately Aware) and standard deviations of 1.09 and 1.11, respectively.

Moreover, the indicator "MOOCs provide an accessible platform for learners from diverse backgrounds" had the lowest mean (2.44 (Less Aware)) with a standard deviation of (1.11. The rarity of any downtime or technical issues in MOOCs has considerable implications for the college students' learning experience, per the data. Such consistency facilitates constant engagement, which is fundamental to motivation and maintaining a focus on learning in online education. Having to deal with technical challenges is minimized, resulting in higher course completion rates and reaching the learning goals without unnecessary frustration. Additionally, stability in platform performance helps solidify confidence in MOOCs as a reliable educational resource, perhaps as an alternative or complement to traditional classrooms.

At an institutional level, minimal technical issues lessen the administrative burden related to troubleshooting and support, allowing educators and providers to redirect more resources to course content and pedagogical innovation. This also provides for fairness between students—those without much technical knowledge or expensive troubleshooting machinery are not unfairly disadvantaged. Due to these features of blended learning, technical aspects in these environments are of great importance. Things in a developer's browser tools enable a meaningful learning experience at no cost as long as they can easily access up-to-date technical resources they can trust. Ghaemi et al. (2023) claim that the absence of proper technical resources and stable internet connectivity contributes to learning disparities among pupils, which implies that the need to overcome these technical challenges directly affects school education (Almusharraf, 2024; Thelma & Phiri, 2024).

5.3 Level of MOOC Utilization of the Respondent Groups

Table 3 presents the perceived respondent groups' level of utilization of MOOCs.

Table 3.
Utilization of Faculty and Students on MOOCs

#	Indicators	Faculty (n = 50)			Students (n = 300)		
		M	SD	Int	M	SD	Int
1.	The enrolment process for MOOCs is simple and user-friendly.	3.58	0.50	HU	2.57	1.13	MU
2.	I am motivated to participate in MOOC activities and complete the courses actively.	3.46	0.50	HU	2.52	1.11	MU
3.	MOOCs provide sufficient flexibility for participation based on my schedule and availability.	2.56	1.22	MU	2.52	1.12	MU
4.	I can complete most MOOCs I enroll in within the given time frame.	2.66	1.17	MU	2.62	1.09	MU
5.	The resources and support provided by MOOCs help me stay on track to complete courses.	2.40	1.16	LU	2.47	1.09	LU
6.	Completing a MOOC feels rewarding and contributes to my personal and professional growth.	3.52	0.51	HU	2.54	1.10	MU
7.	The knowledge acquired from MOOCs is readily applicable to my work or studies.	3.06	0.94	MU	2.57	1.14	MU
8.	MOOCs have enhanced my ability to solve real-world problems using the concepts learned.	2.66	1.15	MU	2.56	1.12	MU
9.	I have successfully integrated skills gained from MOOCs into my professional or personal projects.	3.46	0.50	HU	2.50	1.17	MU
10.	I engage with MOOC content regularly.	2.82	1.10	MU	2.56	1.12	MU
11.	I consistently complete the MOOCs I start without abandoning them midway.	2.72	1.05	MU	2.52	1.11	MU
12.	I follow a consistent schedule for participating in MOOC activities.	2.34	1.02	LU	2.60	1.10	MU

13.	I use MOOCs primarily to develop new skills or enhance existing ones.	3.48	0.50	HU	2.46	1.13	LU
14.	My primary purpose for using MOOCs is to improve my career prospects or professional qualifications.	3.50	0.51	HU	2.48	1.13	LU
15.	I use MOOCs to explore topics of personal interest or for lifelong learning.	2.38	1.03	LU	2.53	1.11	MU
	Aggregate :	**2.97**	**0.86**	**MU**	**2.53**	**1.12**	**MU**

Legend:
1.00-1.74 Not Utilized [NU]; 1.75-2.49 Less Utilized [LU]; 2.50-3.24 Moderately Utilized [MU]; 3.25-4.00 Highly Utilized [HU]

As shown in the table, the teacher respondents' use of MOOCs was moderate, with an aggregate mean of 2.97 and a standard deviation of 0.86. In addition, the lowest mean score was presented by the statement "I follow a consistent schedule for participating in MOOC activities," with Mean = 2.34 (Less Utilized) and SD = 1.02. These data suggest that this accessibility allows teachers to build their skills, remain informed about new pedagogical paradigms, and adjust to new educational technologies. The easy-to-navigate structure of MOOCs, the flexibility of scheduling, fun interactive content, and the ability to access these courses from your mobile phone encourage even busy professionals to participate.

According to Loh et al. (2024), these programs aim to prepare teachers for working in a globalized world by giving them access to global perspectives and collaborations with other countries. This can foster more innovation in teaching or more collaborative learning across cultures. Song et al. (2024), who did a thorough literature search, noted that the ease of access and the enrollment process significantly incentivized educators to enroll in MOOCs. Automated guidance and personalized course recommendations are key features.

Likewise, the table reveals that the level of MOOC use among student respondents was moderate, with an aggregate mean of 2.53 and a standard deviation of 1.12. Moreover, the table reveals that "I can finish most MOOCs I signed up for in the permitted time" has the highest mean of 2.62 (Moderately Used) and a standard deviation of 1.09. Additionally, "I use MOOCs chiefly to gain new skills or make existing ones even better" had the lowest mean value of 2.46 (Less Utilized) and a standard deviation of 1.13. The data suggest that learning is more fun — and effective — in the classroom. Additionally, many MOOCs allow students to earn certifications as they complete them, which can also enhance their academic reputation. MOOCs provide schools with a way to fill the gaps in training without spending exorbitantly, thus paving the way for professional development that is sustainable and inclusive of the school environment. Such democratization of knowledge will ultimately empower the education system as an entity.

Slamet et al.'s (2024) findings about intrinsic motivation, peer engagement, and timely feedback in significant course completion rates in the prescribed timeframe. Onah et al. 's (2021) research aimed to consider the design of MOOCs by presenting shorter content, weekly milestones, and assessment deadlines that would help students finish courses on time.

5.4 Test of Significance of the Relationships Between the Profile of the Respondent Groups and their Level of Awareness of MOOC

The study hypothesized that the respondent groups' awareness level is correlated with their profiles. Table 4 presents the results.

Table 4.
Relationship Between the Profile of the Respondent Groups and their Level of Awareness of MOOC

Level of Awareness of MOOC and	Chi-Square	df	p-value	Significance	Result
A. Faculty					
Age	16.260	6	0.124	Not significant	Ho accepted
Gender	2.966	2	0.227	Not significant	Ho accepted
Highest Educational Attainment	1.971	4	0.741	Not significant	Ho accepted
Years of Teaching	18.249	6	0.006	Significant	Ho rejected

B. Students					
Age	2.828	3	0.419	Not significant	Ho accepted
Gender	2.063	3	0.559	Not significant	Ho accepted
Course Enrolled	24.017	12	0.020	Significant	Ho rejected

The study indicates that the awareness of MOOCs perceived by teacher respondents belongs to the group with years of working as a teacher. We find that the computed p-value of 0.006 is much smaller than 0.05. This implies that the null hypothesis is rejected. This suggests that the number of years teachers have been teaching is related to their awareness of MOOCs, leading to multiple implications for professional development and education policy. More experienced teachers may have heard more about educational innovations (e.g., MOOCs) simply because they have been around longer and have a more significant professional network. However, it could also be that novice teachers are less aware of MOOCs because of the time constraints a first-year teacher faces or that these tools are not adequately highlighted in teacher preparation programs. This relationship emphasizes the importance of tailoring professional development to mitigate any disparities regarding digital learning delivery at various levels of teaching experience. Getting all teachers aware and trained on the different aspects of MOOCs can help them better adapt to the new paradigms of digital pedagogy.

The study of Herranen et al. (2021) also focuses on teachers, where MOOCs are found to be relevant for professional development. Teachers were found to have a positive attitude towards the potential benefits of their teaching practices. However, this study did not specifically investigate the relationship between teachers' awareness of MOOCs and their years of teaching experience. Stutchbury et al. (2023) indicated that teachers of younger age are more likely to use MOOCs to engage in studying as a flexible and convenient way of learning. This shows that more time spent in a particular field influences their engagement with MOOCs.

The table also reveals that MOOC awareness perceived by student respondents is associated with the course programs they signed up for. The p-value calculated (0.020) is much lower than 0.05, Which results in rejecting the null hypothesis. It means that finding the relevant relationships between students' dennets towards MOOC in terms of courses enrolled is the nuances underlining for further academic strategies and outreach possibilities.

MOOCs seem to come to attention naturally from programs focusing on technology, education, or global perspectives, as they are closely associated with the current focus of online education. Conversely, students in less tech-focused or specialized programs may not receive a fair amount of exposure. This indicates that awareness campaigns should be customized for students pursuing programs with low awareness so that all students can benefit from MOOCs' advantages, including flexible learning and access to diverse content. MOOCs must be included in curricula in all programs by the HEI, indicating how they are relevant to various disciplines. For example, these initiatives can improve educational pathways and nurture lifelong learning cultures to support students from all backgrounds.

5.5 Test of Significance of the Difference in the Respondents' Level of MOOC Utilization When Grouped by its Profiles

The study hypothesized that the respondent groups' MOOC utilization significantly differs when grouped by their profiles. Table 5 presents the results.

Table 5.
Difference in the Respondents' Level of MOOC Utilization When Grouped by its Profiles

Respondents' Level of MOOC Utilization When Grouped by	p-value	Significance	Result
A. Faculty			
Age	0.015	Significant	Ho rejected
Gender	0.364	Not significant	Ho accepted
Highest Educational Attainment	0.865	Not significant	Ho accepted
Years of Teaching	0.006	Significant	Ho rejected
B. Students			
Age	0.038	Significant	Ho rejected

Gender	0.385	Not significant	Ho accepted
Course Enrolled	0.727	Not significant	Ho accepted

When teachers' ages and teaching years are combined, the level of MOOC utilization is different, as shown in the table. The p-values of 0.015 and 0.006 obtained are much smaller than 0.05. This results in the null hypothesis being rejected. Teachers' use of MOOCs is significantly affected by age and years of teaching experience, which have implications for professional development. Digital natives and younger teachers are also more responsive to MOOCs, which allow for upskilling, as they often have the technical expertise and want flexible learning options. On the other hand, older teachers may be accustomed to traditional forms of professional development, warranting targeted support to drive MOOC uptake.

Similarly, novices may use MOOCs to develop core competencies, and veterans may use them to research more specific topics. These results suggest that to ensure the optimal positive use of MOOCs against the different teaching demographics, we require tailored training modalities, MOOC coursework, and intuitive interfaces.

In addition, the table indicates different MOOC utilization tendencies by students' ages. The p-value was found to be 0.038, which is $p<0.05$. Age Groups: There are strong suggestions, based on the data, that students use MOOCs very differently as it relates to their ages, which has significant implications for how MOOCs need to be built. Supplementation is crucial for younger students – particularly in primary and secondary education – so they turn to MOOCs as an additional prong of their learning; engaging interactive content and parental support are imperative in these cases. When college-aged learners engage with MOOCs for skill-building and career preparation, they prioritize flexibility and the relevance of content to the industry. MOOCs cater to older adults, often second-time learners looking to upskill or learn for personal development and prioritize practical applications, skill sets, and user-friendly delivery methods. Individual age groups have unique characteristics that emphasize the importance of age specificity in designing courses and learning pathways and the diversity of instructional strategies used to ensure accessibility, engagement, and learning outcomes for different age groups.

6. Conclusion and Recommendations

It is important to note that feedback from college students is a much-underestimated aspect of academic policy-making. Still, its higher education MOOCs footfall distinctly reflects a pattern and gap for teacher improvement. Many teachers view MOOCs as valuable resources to help them learn new pedagogical approaches and gain niche knowledge. Their use, however, is shaped by years of teaching experience with digital technologies. MOOCs are more common among younger teachers, whereas older teachers may need more assistance and training to use these tools. A moderate awareness of MOOCs was shown among university students, who used the platforms primarily to reinforce academic knowledge and further education in line with their profession or personal interests. This is due to the flexibility, accessibility, and variety of courses built in MOOCs. Institutions should encourage the appropriate way to use a MOOC — at scale yet integrated into curricula that meet teachers' and college students' specific needs and preferences — to fully capitalize on the potential of online learning. In a note to their report, make the case for implementing, monitoring, and evaluating their proposed learning enhancement plan.

Study Limitations and Future Research

This study is confined to 65 HEIs across Central Visayas in the Philippines, limiting the generalizability of findings to other regions or educational settings. Also, self-reported data from the faculty members and students of these HEIs may introduce response biases, affecting the accuracy of participants' awareness and usage levels. External factors such as internet accessibility, institutional support, or technological proficiency may influence their participation in the study. Due to these limitations, the researchers find it difficult to invite more faculty members and students to participate in the study. Future researchers may conduct an impact study on the benefits of studying online courses through the MOOC platform.

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