

Engaging Learners' Peer-Interaction in Open and Distance Learning (ODL) Environment

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ABSTRACT

Advancements in technology have revolutionized teaching methods and transformed learning experiences. An innovative approach to enriching classroom interactions is the adoption of online class participation (OCP) in the Open and Distance Learning (ODL) environment. This study aims to explore the impact of assessment-based OCP on learners' assignment performance across four undergraduate quantitative business courses at Open University Malaysia (OUM). The research compared the mean assignment marks of learners, with each assignment comprising two components: Part I, a written assignment, and Part II, the OCP component. Descriptive statistics were employed to analyse the data, calculating the mean assignment marks for each semester over seven semesters. The findings revealed a generally positive effect on learners' average marks across the observed semesters when assessment-based OCP was integrated as one of the assignment components. This research offers insights into how assessment-based OCP can facilitate online class participation and peer interaction among ODL learners, thereby addressing the interaction gap inherent in online learning environments. It is important to acknowledge the limitations of this study. Firstly, the analysis was limited to four quantitative courses, and as such, the findings may not be applicable to courses of different disciplines due to their specific nature. Secondly, the comparison of learners' assignment performance (with assessment-based OCP) was based on data from only four semesters, which may restrict the generalisability of the results. Despite these limitations, the study provides valuable insights into the potential benefits of assessment-based OCP in enhancing the learning experiences of ODL learners and narrowing the interaction gap in online education.

Keywords: Open and Distance Learning (ODL), Online Class Participation (OCP), Assessment-based OCP, Learner performance, Peer interaction

INTRODUCTION

Advancements in technology have revolutionized teaching methods and transformed learning experiences. The educational environment has rapidly evolved, moving away from traditional classrooms to Open and Distance Learning (ODL) settings. However, it is argued that ODL learners often face challenges that can hinder their learning journey, setting them apart from their peers in traditional educational settings (Donald, 1997; Dzakiria, 2004). According to Dzakiria (2004) and Dzakiria and Rozhan (2003), students transitioning from conventional, teacher-centred forms of education to the more student-centred environment of ODL may face considerable hurdles. These challenges stem from a variety of sources, including personal and academic experiences, financial constraints, family commitment, perceived lack of relevance in studies, and insufficient support from employers.

The transitional period into ODL can be particularly daunting for students accustomed to traditional educational settings, necessitating careful consideration and support from educational institutions. The nature of ODL, characterized by a lack of face-to-face interaction with instructors, exacerbates the difficulties faced by distance learners. Without the immediate feedback and guidance provided in traditional classroom settings, learners may struggle with learning and self-assessment. The absence of direct contact with instructors and peers compounds the challenges of independent learning. This is especially pertinent for students residing outside major urban centres, where issues such as limited connectivity, inadequate network infrastructure, and restricted access to technology can further hinder their educational experience. For these learners, the frustrations stemming from

the lack of interactivity and support in ODL settings can significantly impact their academic success and overall satisfaction with the learning process.

The unique needs and challenges of distance learners require proactive measures and support mechanisms from educational institutions. Administrators of distance education programmes must remain vigilant to the barriers that impede student engagement and success. Efforts to enhance the accessibility and usability of educational resources, including telecommunications infrastructure and technological tools, are paramount to ensuring equitable learning opportunities for all students, regardless of their geographic location or socioeconomic status. Moreover, initiatives to promote community building and peer support within ODL environments can help mitigate feelings of isolation and foster a sense of belonging among learners. Institutions must also prioritise the provision of comprehensive support services to address the diverse needs of distance learners. This includes offering academic advice, counseling, and mentorship programmes to assist learners in navigating the challenges of ODL and promoting their academic and personal well-being. Educational institutions can empower distance learners to overcome obstacles, achieve their educational goals, and thrive in the dynamic landscape of online education by proactively addressing the barriers to learning and providing tailored support services.

In general, the challenges faced by distance learners in ODL settings are multifaceted and require a holistic approach to address effectively. Educational institutions can create inclusive and supportive learning environments that empower students to succeed academically and personally with recognizing and addressing the diverse needs of distance learners. Through strategic investments in technology, infrastructure, and support services, administrators can foster a culture of accessibility, engagement, and excellence in ODL, ultimately ensuring that all learners have the opportunity to realise their full potential.

Technological advancements have led to changes in teaching methods and learning experiences. With various online tools and platforms, learners are exposed to new learning experiences, further promoting online learning as a viable option for higher education. In the online and distance learning environment in particular, there has been a growing trend of conducting learning activities using e-learning tools such as Moodle, Blackboard, Web 2.0, and Web 3.0 (Aljawarneh, 2020). These learning tools offer advantages that provide online learners interactivity, practicality, and flexibility (Aisha and Ratra, 2022; Dubey et al., 2023; Jindal and Chahal, 2018) and thus not only aid in improved learning but allow learners to achieve a higher level of cognitive understanding of the subject or course material.

According to Katz (2002), using technological tools in online learning should impact students' performance, academic accomplishments, and satisfaction. Therefore, online educational institutions need to adopt online learning strategies and continuously explore and develop innovative ways to integrate technology into their learners' learning experiences. Abbasnejad et al. (2023) emphasized the importance of continuously improving course features to adapt to the online learning environment. This is relevant as the online learning setting, particularly in ODL, requires high commitment and perseverance from the learners. Despite the various learning tools used to enhance online learning activities, learners' active participation in online activities is essential. Banna et al. (2015) and Britt (2015) highlighted that the relevance of learners' participation in online learning could be demonstrated by learners' cognitive progress and capacity to construct their knowledge, leading to learners' success. Despite the flexibility, self-paced, and supported learning environment, it is not an easy endeavour to entice learners to participate in online learning activities. As argued by Dubey et al. (2023), instructors are struggling to create an online learning environment that engages learners. In this regard, interaction as one of the key features of online learning plays an important role in effective learning and in enhancing learners' engagement. Interaction in the context of online learning can be performed using engaging content and activities. It includes learners' interactions with course content, learning activities and tools, instructors or tutors, and peers.

Adopting online class participation (OCP) could be one of the ways to improve learners' classroom interactions in ODL. This source of online socialization that connects individuals with an online community can help learners overcome not only distance but also time barriers to connect and reconnect with classmates. In this regard, as suggested by Asghar et al. (2021), the benefits of online platforms can increase resilience among students, particularly during crisis or disease outbreaks such as the COVID-19 pandemic. This could be due to instructors' and peers' support during quarantine, where learners adapt to learning outside a live classroom setting. The

pandemic crisis has provided valuable lessons learned. During these challenging times, many universities have increased the pace of designing new learning activities by adopting and integrating distance learning tools and technologies to encourage and motivate learners to participate and be actively involved in an online setting (Basuony et al., 2021; Johnson et al., 2020; Li et al., 2023; Mukhtar et al., 2020).

As Malaysia's pioneering ODL institution, Open University Malaysia (OUM) remains committed to advancing online education. Through a variety of delivery modes, including self-managed learning, e-tutorials, and online platforms, OUM enables learners to transcend the constraints of traditional classrooms. The institution's online platform, 'my INSPIRE,' serves as a comprehensive learning management system, offering a range of support tools and features to OUM learners. These include e-Forums, e-Modules, video lectures, and dedicated folders for assignment discussions, course topics, and online class participation platform.

This study investigated the impact of assessment-based Online Class Participation (OCP) on learners' assignment performance across four undergraduate quantitative business courses at OUM. The outcomes of this research offer insights into how OCP, within a collaborative and interactive framework, can enrich online discussions in distance learning, thereby cultivating a conducive and beneficial learning atmosphere.

LITERATURE REVIEW

Online learning, also known as e-learning, web-based learning, digital collaborations, and virtual classrooms, requires employing technological tools to deliver information that can impact learners' performance, academic accomplishments, and satisfaction (Katz, 2002). In line with this, researchers have focused their studies on various strategies of online learning, including course design (Hosler and Arend, 2012; Martin et al., 2018; Martin et al., 2019), course delivery (Mahmood, 2020; Mishra et al., 2020), and course assessment (Mahmood, 2020; Martin et al., 2019; Mishra et al., 2020; Peterson, 2016). Despite the intentions of these strategies to offer learners a beneficial learning experience that can enhance their academic performance and achievement, researchers continue to prioritise the significance of class participation and interaction in online learning (Asghar et al., 2021; Zuhairi et al., 2020). In this regard, Cho and Tobias (2016) and Moreira et al. (2013) argued that using technological tools in online learning to support the teaching presence is becoming more prevalent, which can be a source of continued cognitive, social, and dialogical presence in the learning process. This, in turn, promotes the development of learning skills and knowledge in a constructivist and collaborative environment (Cho & Tobias, 2016; Moreira et al., 2013; Vlachopoulos & Makri, 2019).

As suggested by researchers, online class discussion not only can enhance learners' learning and facilitate social interaction but also create opportunities to enhance learning through collaboration (Abbasnejad et al., 2023; Attiogbe et al., 2023; Hew & Cheung, 2013; Vlachopoulos & Makri, 2019). Importantly, the online discussion allows equal opportunity for learners to participate and create collective knowledge by sharing and elaborating ideas (Cho & Tobias, 2016). Each learner gains reflectiveness, critical thinking skills, and a deeper understanding of subjects through collaborative knowledge-building processes than they would have if they were studying alone (Hew & Cheung, 2013). Through interaction in online discussion forums, learners can share task-related postings and messages or assignment-related questions, including concern about the requirement and difficulty of a task, progress on a task, and solutions for a task. Also, learners can share postings or messages unrelated to tasks or learning activities, which are of social in nature. Given these learning and social opportunities via online class participation or online discussion, learners are expected to develop a sense of a learning community that supports learning and contributes to their social presence, course satisfaction, and perceived learning (Cho & Tobias, 2016).

With the practicality and flexibility online learning provides in the learning environment, the Community of Inquiry (CoI) model developed by Garrison et al. (2000) suggests that online learning is facilitated through the dynamic interplay of three elements: cognitive presence, social presence, and teaching presence. These elements collectively form an online community of inquiry, which serves as a conceptual framework identifying the essential elements necessary for a successful higher education experience. The CoI model (Figure 1) which is widely recognised as the prevailing framework for online learning (Cho & Tobias, 2016; Li et al., 2023; Vlachopoulos & Makri, 2019; Xue et al., 2023), focuses on the nature of the educational experience in distance learning environments.

Community of Inquiry

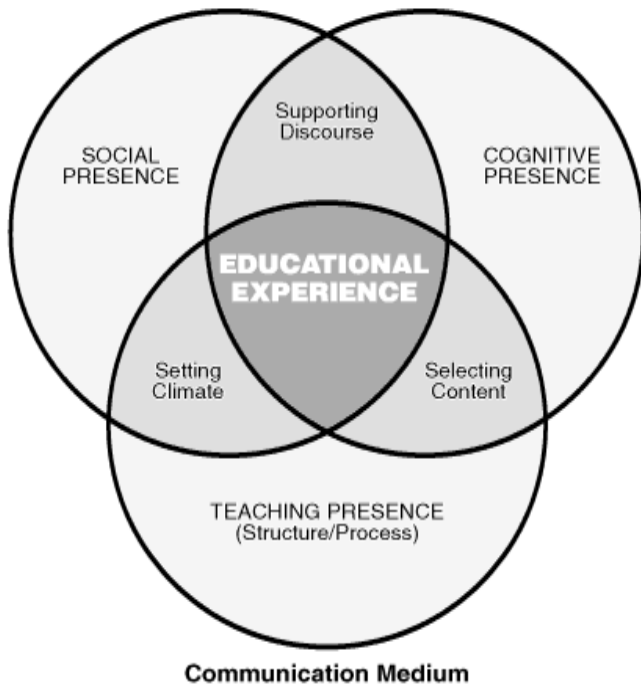


Figure 1. Community of Inquiry Model

According to Garrison et al. (2001), through online interactions and discussions, students and instructors jointly develop a CoI. The discussions provide opportunities to form a virtual community of inquiry that further establishes an understanding of how cognitive presence, social presence, and teaching presence contribute to facilitating online learning. Cognitive presence describes “the learners’ ability to understand the learning materials and think critically through activities and discourse with other learners and instructors” (Garrison et al., 2001). While social presence is defined as “the ability of participants to identify with the community (e.g. course of study), communicate purposefully in a trusting environment, and develop interpersonal relationships by way of projecting their individual personalities” (Garrison, 2009). Teaching presence refers to an instructor’s efforts to facilitate the development of a community of learners, which include establishing course content and learning activities, setting timelines, monitoring course-related collaboration, and providing feedback (Garrison et al., 2010). The three presences indicate that the CoI framework recognises the importance of learning environment in shaping learners’ experience. Hence, the overlap of the three elements of presence is where the essence of a community of inquiry exists and meaningful collaboration takes place.

In the context of online education, the scope of interaction often faces constraints, particularly in the absence of adequate technological infrastructure. Tait (2000) elucidates this constraint as a critical avenue for learners to receive feedback, emphasising its pivotal role in the learning process. Dzakiria (2012) further underscores the significance of interaction in ODL, positing it as fundamental for academic achievement. Within the discourse of online education, Moore's framework (1989) continues to serve as a cornerstone, with various dimensions of learners’ interaction. These dimensions encompass not only the interaction between learners but also between learners and educators, as well as learners and educational content (Moore, 1989). In essence, interaction manifests as the dynamic process through which a meaningful exchange of information and ideas transpires among multiple parties. Such exchanges are integral to fostering engagement, deepening understanding, and facilitating effective learning outcomes in the online educational landscape. However, the efficacy of interaction in online education hinges greatly on the utilisation of appropriate technological tools and pedagogical strategies to mitigate the inherent limitations of distance and physical separation. Thus, while the essence of interaction remains consistent across educational modalities, its implementation in the digital realm necessitates innovative approaches and deliberate interventions to optimise its impact on student learning and success.

Interactivity within educational contexts encompasses a diverse array of dimensions, as noted by Murphy et al. (2001). Within instructional theory, interaction serves as a crucial mechanism for learners to receive feedback,

thereby facilitating their progress and understanding (Dempsey & Sales, 1994; Tait, 2000). The provision of feedback is essential to fostering successful learning outcomes, suggesting that increased interaction may positively impact both learners and the teaching process itself. Indeed, in traditional classroom settings, research by Flanders (1970) explored into the dynamics of student-teacher interaction, concluding that greater interaction correlated with improved student achievement and attitudes toward learning, a finding supported by Dzakiria (2004) and Dzakiria and Idrus (2003). Interaction serves as a fundamental conduit for the exchange of information, ideas, and feedback between learners and instructors. By actively engaging with course content and receiving timely feedback, learners can refine their understanding, address misconceptions, and enhance their learning outcomes.

Moreover, the role of interaction extends beyond individual learning processes to encompass broader pedagogical considerations. Increased interaction within the classroom not only benefits individual learners but also contributes to a more dynamic and engaging learning environment. Through active participation and dialogue, learners are encouraged to collaborate, critically evaluate ideas, and construct new knowledge collectively. This collaborative approach to learning not only fosters deeper understanding but also cultivates essential skills such as communication, problem-solving, and teamwork that are increasingly valued in today's interconnected and rapidly evolving world. In online education, the importance of interaction takes on added significance due to the inherent challenges of distance and physical separation. In virtual learning environments, effective interaction becomes essential for overcoming barriers to engagement, fostering a sense of community, and promoting active participation among students. As such, educators must leverage a variety of technological tools and pedagogical strategies to facilitate meaningful interaction in online settings, including discussion forums, collaborative projects, and interactive multimedia resources.

Ultimately, the value of interaction in educational contexts cannot be overstated. Whether in traditional classrooms or online learning environments, interaction serves as a cornerstone of effective teaching and learning. By providing opportunities for feedback, collaboration, and dialogue, educators can empower students to take ownership of their learning, foster deeper understanding, and cultivate the skills needed to thrive in an ever-changing world. As educational practices continue to evolve, the promotion of interaction remains a vital pillar of pedagogical excellence, ensuring that learners are equipped with the knowledge, skills, and competencies needed to succeed in the 21st century.

As stated earlier, there are several ways of interactions and communication that are lacking in ODL environment, namely, learner-learner (peers), learner-facilitator and learner-content interactions. Peer interaction can be described as the dialogue occurring among two or more students at the same level or in the same class. There are challenges associated with learner-learner interaction, including demotivation stemming from stress and uncooperative tasks (Dzakiria, 2012). Group work interactions and discussions play a pivotal role in facilitating the comprehension of course material while mitigating feelings of isolation and monotony. Kuo (2010) further expounds that in online courses lacking collaborative activities, the significance of learner-learner interaction may diminish. Despite learners' interest in engaging with their peers in the ODL environment, Rahman et al. (2021) suggest that such interactions may hold little sway over their overall perception of the online learning environment. Conversely, Gray and DiLoreto (2016) discovered a positive correlation between learner interactions and perceived student learning. These findings underscore the multifaceted nature of interaction in ODL settings, where collaborative endeavours among learners can foster meaningful exchanges and deepen understanding. However, the extent to which such interactions influence learners' perceptions of the online medium may vary, indicating the need for further exploration into the dynamics of learner-learner interaction and its implications for online education.

Learner-facilitator interaction is a two-way interaction between the course educator and learners that usually happens in the form of guidance, support, evaluation, and evaluation (Dzakiria (2012). The importance of an educator's presence in an online learning environment is vital due to their role as facilitator of the class (Ali & Ahmad, 2011; Thanasi-Boçe, 2021). Consistent and effective learner-educator interaction fosters an online learning environment that motivates learners to commit to the course and achieve a higher academic level (Jaggars & Xu, 2016). Importantly, learners are able to reflect and learn with proper feedback from educators (Dzakiria, 2012).

Learner-content interaction is described as a process involving the examination and contemplation of educational material (Moore, 1989). As technology continues to advance, there are both new challenges and opportunities that arise. Dzakiria (2012) observes that the adoption of internet-based tools often leaves some students feeling disoriented, particularly those unfamiliar with such technologies. This issue of technological ineptitude becomes especially problematic in ODL settings, where the educational approach is inherently student-centered. Previous research underscores the pivotal role of interaction in ODL, emphasising its importance in facilitating effective learning experiences (Kuo, 2010; Kuo et al., 2014). By engaging in meaningful interactions, learners can actively navigate course materials, deepen their comprehension, and enhance their understanding of the subject matter, thus underscoring the significance of interaction in the context of online education.

In light of the unique features that online learning offers, one of the innovative ways to enhance learners' classroom interactions is to adopt assessment-based online class participation (OCP). This assessment-based OCP can play a crucial role in optimizing learners' experiences and ensuring the benefits they derive from their courses. It serves as an encouragement for learners to deepen their understanding of course content and increase their level of participation in OCP discussions.

METHODOLOGY

This study focused on four undergraduate quantitative business courses in Economics and Investment: D1 and D2 (Diploma Level) and B1 and B2 (Bachelor Level). The selection of these courses was guided by specific criteria as follows:

1. The courses were offered in the observed semesters (January 2021, May 2021, September 2021, January 2022, May 2022, September 2022, and January 2023)
2. The courses are considered challenging for OUM learners, combining concepts, theories, and financial mathematics
3. The courses use similar rubrics (as scoring guide)
4. The courses have the same total assignment mark, 60 marks (the assignment accounts for 60% of the total marks for the course)

Assessment-based OCP was first introduced in January 2022 semester, followed by May 2022, September 2022 and January 2023 semesters. With the assessment-based OCP, in each of the four courses, learners could earn a maximum of 60 marks for assignment according to the following components or breakdown: Part I, written assignment (50 marks), and Part II, OCP (10 marks). In contrast, before the use of the assessment-based OCP, each course consisted of one assignment for 60 marks.

With regard to the OCP, tutors graded learners' comments and discussions postings (based on the given questions or tasks) using the OCP rubrics (as scoring guide) provided to the learners in the assignment question for the semester. Screenshots of learners' postings or discussions are required as proof of participation in the OCP.

The data were analysed using descriptive statistics, calculating the mean of assignment marks for each course in seven observed semesters (January 2021, May 2021, September 2021, January 2022, May 2022, September 2022, and January 2023). This study compared learners' performance based on the mean of assignment marks across semesters to see whether learners perform better when they have the assessment-based OCP as one of the assignment components.

RESULTS

Descriptive analysis was performed, with mean of assignment marks was analysed. The results indicate that the inclusion of the assessment-based OCP (as one of the assignment components) across the four semesters (January 2022, May 2022, September 2022, and January 2023) led to an improvement in the learners' average marks for the four courses. This suggests that the assessment-based OCP had a positive impact on the learners' assignment

performance over time, as demonstrated by the increase in their average mark. Table 1 presents the mean of assignment marks for the four courses over the observed semesters.

Table 1 Mean of assignment marks

Course	Without Assessment-Based OCP (60 marks) (No. of Learners)			With Assessment-Based OCP (60 marks) (No. of Learners)			
	Jan 2021	May 2021	Sept 2021	Jan 2022	May 2022	Sept 2022	Jan 2023
D1	22.14 (98)	26.6 (153)	29.4 (157)	20.1 (155)	26.5 (121)	27.1 (170)	36.2 (234)
D2	21.42 (38)	44.8 (80)	35.3 (65)	24.9 (75)	39.3 (58)	40.7 (89)	39.6 (85)
B1	24.89 (453)	28 (346)	34.0 (427)	37.6 (359)	36.3 (316)	36.8 (406)	36.4 (367)
B2	20.88 (24)	42.6 (54)	43.9 (67)	37.4 (63)	39.9 (48)	40.3 (44)	40.9 (55)

Comparison of Assignment Marks (without Assessment-Based OCP and with Assessment-Based OCP)

For D1, in semesters without assessment-based OCP, the mean ranged from 22.14 to 29.4, while with assessment-based OCP, the mean ranged from 20.1 to 36.2. There was a difference in the assignment average score when the learners had their OCP assessed compared to having no assessment-based OCP as one of the assignment components. In general, this shows that the learners performed better when interactions with peers took place. The learners tend to engage in learning via discussion and sharing information and knowledge with peers and e-tutors. Engaging in peers' discussions also promotes collaborative learning, where learners can collectively solve problems, share knowledge, and work together to achieve common goals. Ultimately, this can lead to a deeper understanding of the subject matter.

For D2, in semesters without assessment-based OCP, the mean ranged from 21.42 to 44.8, while with assessment-based OCP, the mean ranged from 24.9 to 40.7. Although there was no significant difference in the assignment performance, the average (mean) in the semesters with assessment-based OCP shows that learners' average assignment score patterns likely remain relatively consistent. It indicates that the learners' engagement in discussions with peers can make learning more enjoyable and motivate learners to participate actively in their learning or task. It can, therefore, create a sense of camaraderie and mutual support.

For B1, in the semesters without assessment-based OCP, the mean ranged from 24.89 to 34, while with assessment-based OCP, the mean ranged from 36.3 to 37.6. There was a difference in the assignment performance when the learners had their OCP assessed compared to having no assessment-based OCP. The average (mean) in the four semesters with assessment-based OCP shows that learners' average assignment score patterns likely remain relatively consistent. It indicates that the learners can learn from peers who can offer constructive criticism and point out errors or misconceptions in their thinking, helping them refine their knowledge and arguments. This diversity can help learners view issues from different angles and foster a more comprehensive understanding of the course.

For B2, in semesters without assessment-based OCP, the mean ranged from 20.88 to 43.9, while with assessment-based OCP, the mean ranged from 37.4 to 40.9. The average (mean) score across the four semesters with assessment-based OCP shows a relatively consistent pattern compared to the semesters without assessment-based OCP. OCP enables learners to discuss with peers, and it can be one of the effective ways to enhance learning and critical thinking. It also allows learners to draw from diverse groups' collective knowledge and experiences, leading to a more enriched and well-rounded understanding of the course.

In the four semesters (when assessment-based OCP was included as one of the assignment components), the average (mean) learner marks for D1 and B2 were the highest in January 2023 semester, with 36.2 and 40.9, respectively. While for D2 and B1, the average (mean) learner marks were the highest in September 2022 semester (40.7) and January 2022 semester (37.6), respectively. Overall, the average (mean) learner marks were relatively consistent in the four semesters (January 2022, May 2022, September 2022, and January 2023) when assessment-based OCP was included as one of the assignment components.

This study focused on examining whether assessment-based OCP can contribute to improved learners' assignment performance. The findings from this study provide the following discussion and implications: Overall, learner performance in terms of assignment marks was relatively higher when learners had the OCP component assessed than when they did not have the assessment-based OCP. Although the assessment-based OCP is not the sole contributor of learner assignment performance, it implies that assessment-based OCP could help learners improve their academic performance through peer interactions and online participation. In this regard, securing a positive learning experience in effective ways helps learners perform better in their online class discussions, which contributes to the overall assignment marks. Therefore, with improvement and innovation in online participation activities, the university helps learners perform better in the overall course.

With OCP as one of the assignment components, can help learners appreciate an enhanced learning experience. Importantly, this is to ensure persistence and improve academic performance and at the same time achieve learning outcomes for the course. Although the overall results indicated that learners' assignment performance improved with the assessment-based OCP, it brings our attention to the role of tutors in online courses. It is vital to maximise supportive functions including to effectively motivate and guide learners in their familiarisation with the assessment-based OCP. Tutors need to be proactive in providing appropriate feedback and comments to learners for improving their discussions in OCP, instead passively grade submitted OCP discussions. Relevant and continuous feedback from tutors can play a crucial role in helping learners have a clear idea and information to improve the quality of the OCP discussions. The knowledge obtained through previous semesters' OCP discussions of other courses helped learners engage more in the learning process, especially when they received guidance and feedback. This was indicated by the assignment marks of the courses (except B1), where the average mark dropped in the January 2022 semester when assessment-based OCP was the first time included in the assignment components. However, in the following semesters, there was an increase in the average score of the assignments. This shows that experience and familiarity level associated with OCP could enhance learners' assignment score.

From the CoI model perspective, which emphasises the cognitive presence, teaching presence, and social presence, this study highlighted the role of assessment-based OCP for learners in online learning. By comparing the four courses, this study examined whether assessment-based OCP could be related to learner assignment performance. Additionally, this study enriched the discussion related to cognitive presence, teaching presence, and social presence regarding learners' participation in discussions based on the given questions or tasks. For example, tutor-learner and peer interactions could be different and changed through OCP of the course. At the beginning of the semester, learners may not only need more guidance and feedback from tutors but also peer support because the course is new to them. During this stage, learners aim to establish social presence by engaging in discussions that emulate the atmosphere found in face-to-face classes when addressing OCP discussion questions. Interaction with peers can enhance social presence, thus boost the perceived social support. This includes encouraging learners to participate in online discussions where they are given a chance to share his opinions or thoughts about the topic discussed. Hence, online discussion via OCP platform can be used as means to promote learner understanding of a topic and to facilitate social interaction among learners or between learners and tutors.

During the initial stages of the course, learners often required additional encouragement and support to express their opinions, a need that gradually diminished as they became more acquainted with the expectations of the assessment-based OCP. As the course progresses, learners grow increasingly accustomed to the OCP discussion questions, which prompt them to engage in sharing and confirming their understanding of the topics or areas under discussion. This cognitive engagement is further enriched by interactions within the OCP forums. The interactive nature of OCP discussions serves to deepen learner understanding, as participants can offer explanations, provide answers to questions, and compare perspectives with their peers. Importantly, this

assessment-based OCP model has the potential to cultivate supportive learning environments characterised by flexibility, accessibility, and convenience.

Furthermore, the study suggests that the elements of cognitive presence, teaching presence, and social presence may manifest differently depending on the nature and complexity of the course. This underscores the need to examine the role of online discussions facilitated by OCP in shaping learner experiences, as measured by the Community of Inquiry (CoI) framework. Understanding the interplay among cognitive presence, teaching presence, and social presence is crucial for optimising online learning experiences. Thus, further investigation is warranted to explore these dynamics comprehensively and to uncover insights that can inform the design and implementation of effective OCP strategies in diverse educational contexts.

As argued by Basuony et al. (2021), participation and interaction are among the important issues evolving in the online learning environment. There are challenges in participation and interaction, particularly in the ODL setting, where learners face potential barriers to learning, such as motivation and a sense of isolation. In this vein, reconciling the different expectations held by ODL institutions and learners regarding participation and interaction could be optimised with online learning platform to improve and enhance the learning quality. In addition, as suggested by Xue et al. (2023), well-designed courses can encourage learners to engage in social interaction and communication, which creates an active and positive environment for a learning experience. Thus, continuous improvement is required to ensure ODL institutions can address the changing needs of learners in more flexible fashions.

In spite of the significance of this study, the focus on four quantitative business courses within four semesters of assessment-based OCP limits the generalisation of the findings. Additionally, the study compared learner assignment performance by using average mark and did not analyse the performance on each assignment component. Although the four courses were offered in all the observed semesters, the OCP questions or tasks would have varied in different semesters, so it might have affected the findings. Hence, it is suggested that future researchers should consider expanding the scope of the study by collecting data for other quantitative courses and for more semesters as well as analyzing the performance of each assignment component. Also, future studies should consider collecting data for qualitative courses and examining factors influencing learners' assignment performance with the adoption of assessment-based OCP. A comparative study on the quantitative and qualitative courses could be carried out, which aims at assessing the assignment performance with the inclusion of assessment-based OCP in the assignment components. Moreover, further research could conduct qualitative interviews to understand learners' perceptions regarding assessment-based OCP.

CONCLUSION

The significance of learner interaction and participation within online environments remains paramount in the ODL environment. Consequently, a study focusing on understanding the impact of assessment-based OCP on learners' assignment performance holds significant relevance. The endeavours have the potential to offer valuable insights into how assessment-based OCP initiatives can effectively enhance learners' engagement and participation in online settings, thereby bridging the interaction gap inherent in online learning environments. Moreover, the implementation of OCP strategies, particularly those involving peer interactions, necessitates the cultivation of essential skills such as courtesy, effective communication, and netiquette. These attributes are essential for fostering collaborative learning experiences and ensuring constructive peer interactions. Notably, assessment-based OCP initiatives have the capacity to optimise learners' overall educational experiences by facilitating meaningful engagement, promoting active participation, and maximizing the benefits derived from online courses. Given the transformative potential of assessment-based OCP activities, it is imperative for ODL institutions to integrate innovative OCP approaches into their learning processes. By incorporating such initiatives, institutions can enhance the efficacy and success of online learning endeavours. This ultimately empowers learners to achieve their educational goals and realise their full potential in the digital age.

Nevertheless, it is essential to recognise that the efficacy of peer interaction in ODL is contingent upon various factors, including the design of online courses, the availability of supportive technological infrastructure, and the facilitation strategies employed by educators. Kuo (2010) warns that without adequate collaborative activities and opportunities for peer engagement, learner-learner interaction may remain superficial or insignificant,

undermining its potential impact on learning outcomes. Therefore, educators must adopt pedagogical approaches that promote active participation, collaboration, and meaningful interaction among students, both within formal learning activities and through informal social channels. Moreover, while peer interaction holds undeniable pedagogical value, its influence on students' overall perceptions of the online learning experience remains a subject of ongoing debate. Rahman et al. (2021) suggest that while students may express interest in engaging with their peers during ODL, the significance of such interactions in shaping their overall satisfaction with the online medium may be limited. This underscores the need for further research to clarify the complex interplay between peer interaction, student perceptions, and the effectiveness of online learning environments.

In conclusion, peers' interaction in ODL contexts represents a dynamic that consists of both challenges and opportunities for students and educators alike. While barriers such as stress, isolation, and technological limitations may pose obstacles to meaningful engagement, the benefits of fostering robust peer interactions including enhanced learning outcomes, social support, and the development of critical thinking skills undermining the importance of prioritising collaborative learning experiences in online education. Moving forward, it is imperative for educators to leverage innovative pedagogical strategies, supportive technologies, and community-building initiatives to cultivate vibrant and inclusive learning communities where peer interaction flourishes, ultimately enriching the educational experiences and outcomes of students in ODL contexts.

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