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A SUGGESTIVE STUDY TO ADDRESS THE CHALLENGES OF YOUNG WORKING PROFESSIONALS IN CONNECTIVISM MASSIVE OPEN ONLINE PROGRAMS (CMOOCS)

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Abstract
Purpose- This study aims to study the challenges learners encounters while perusing cMOOCs' so as to identify the indicators of online engagement for the cMOOCs' opted by the working professionals. Initially, authors arrived an understanding of learner's sentiments to frame the challenges they face while learning cMOOC and to draw broader theme to address the challenges. Authors adopted qualitative research approach, where 66 in depth learners' interviews were conducted. Sentiment analysis and thematic analysis using Power BI and NVivo were conducted to attain the research objectives. Sentiment analysis suggested that young learners have positive sentiment towards online learning and find it easy to access and useful. Also, the extracted indicators through thematic analysis reflect the influence on learning engagement. Few dimensions of behavioral and social engagement were the major indicators where learners encounter issues pertaining to e-engagement. This study has major implications for all marketers and policymakers to design cMOOC accelerating e-engagement especially among working professionals.

Keywords: Connective Massive Open Online Course (cMOOC), E-engagement, Sentiment Analysis, Thematic Analysis, Working Professionals, EdTech Companies.

1. Introduction

In the present time, the business world is increasingly relying on fast-growing technological advancement for innovation and success, mostly accelerated by its competent workforce. Acknowledging the knowledge-based economy's urges for lifelong learning and education driving huggums attention of professionals to remain competitive and relevant (Karnouskos, 2017; Guerrero et al., 2021). Acquiring new and competitive skill sets using technological tools by learners, is now facilitating new opportunities in the form of learning via open-source content, online consulting, and online learning & training programs playing an important role in developing a competitive workforce (Żur et al.,2021; Zhu & Doo, 2022). The traditional learning approach, where the facilitator has sole proprietorship on the course, is now transformed and changed by introducing advanced technology and its tools (Lin, 2021; Bakki et al., 2023).

In the past few years, the application of technology tools in online learning has undergone multifaceted research initiatives to understand the openness of the learning context and environment, and Massive Open Online Courses (MOOCs) are one of them. Researchers believe that MOOC has enormous potential to promote lifelong learning capabilities and build new skill sets among working professionals apart from the traditional setting of teaching and learning (Falkner et al., 2018; Mellati & Khedemi, 2020; Zhu et al., 2022). Siemens (2004) proposed a fresh approach to learning in the purview of connectivism, which led to connectivist Massive Open Online Courses (cMOOCs). cMOOC, in the background of the learning theory of connectivism, revolves around the capabilities of learner-generated content provoking the learning aptitude of

other learners. This chain of producing learning content is not only an effort put forth by the learner who is producing it but also by the learners who are receiving it. Henceforth, the issue of obtaining learners' mutual interest and engagement requires a systematic approach and solution to improve the influence of cMOOCs on learners' life goals.

Along with this, the sudden change in an educational setting, from face-to-face, to learning online resulted in the emergence of new challenges for its learners (Amir et al., 2020; Poon et al., 2022). On the face of the same, MOOCs have long-standing challenges like high dropout rates, less participation, and non-engaging for the students seeking an immediate solution (Porter, 2015; Sosa-Díaz & Fernández-Sánchez, 2022). Research in the past confers that, compared to offline learning, cMOOC participants have a certain disadvantage of connectedness, which probably weakens the quality of learning engagement. Studies in the past featured the learners' psychological aptitude as one of the major determinants of engagement within learning activities (Muthuprasad et al., 2021; Poon e al., 2022). Since academicians proposed the concept of online learning in the modern era, researchers have encountered many debates and difficulties to understand the indicators deriving e-engagement. There are ample studies done so far to investigate the influence of MOOCs' on learners' satisfaction and performances (Tao et al., 2023). However, there are limited studies, exploring the indicators of engagement, which actually drives learners towards cMOOCs'. Henceforth, authors believe that, there is a need of conducting an empirical study to explore the indicators which drives learner's engagement for cMOOCs', and then to determine whether any discernible effects of online learning exist in terms of student engagement and practical learning (Dmello et al., 2023; Dubey et al., 2023). Much research since then has been conducted to explore the determinants glued in students' engagement for better learning (Bao, 2020). Several studies, henceforth, were conducted to address the various challenges of conventional education, enabling learners' engagement in online learning mode and proving its effectiveness significantly during tough times. However, more research should have discussed the status and challenges of non-conventional education and its effectiveness in terms of engagement among its stakeholders, especially those learning while working (Pillai & Sivathanu, 2020; Jovanka et al., 2023).

In order to explain the technological connectivity in the dynamic network, which other well-established theories of learning such as self-determination theory, grounded theory, and flow theory failed to explain in the conventional learning environment, Siemens developed the connectivist theory (Goh &Yang, 2021; Krasny et al., 2021; Zhou et al., 2022). Additionally, learners' engagement in the process of remote learning faced new challenges influencing various dimensions like cognitive behavioral and social engagement (Wang et al., 2017). Henceforth, researchers carried out several studies to examine the significance of these indicators in relation to xMOOC (Bao, 2020). However, learners' learning outcomes in the context of cMOOC require implementing an innovative remote learning technique to encompass active engagement with the learner using appropriate tools that fit virtual instructions (Sarwar et al., 2020). Henceforth, to reconnoiter indicators of learning engagement in the cMOOC forum in detail, authors aimed to decode the learning sentiments of working learners to further extract the indicators of e-engagement separately (Atapattu et al., 2019). Based on the above literature, the authors aim to build the following research questions:

RQ1: To understand the learner's sentiments influencing their cMOOC engagement?
RQ2: According to them, which indicator prompts or limits e-engagement?

The authors applied manual coding and traditional machine learning methods to detect emotion and cognition indicators in large-scale cMOOC discussion texts (Atapattu et al., 2019). These findings will provide methodological and theoretical insights to support instructors and learners in designing e-engagement.

1.1 Research objectives

The focus of the research is to identify the indicators of e-engagement of the learners in cMOOC programs with the following objectives:

(1) To conceptualize a framework using the theory of connectivism and engagement and
(2) To identify and draw broader themes for e-engagement.

2. Literature Review and conceptualization of framework

2.3 Theoretical background

Researchers have conducted numerous studies to understand how e-engagement develops in the online learning process, mostly for conventional education. Many authors adopted theories like grounded theory, flow theory, and self-determination theory in the traditional setting of learning (Goh &Yang, 2021; Krasny et al., 2021; Zhou et al., 2022). However, researchers want to adopt the theory of e-engagement and connectivism to identify the indicators of engagement among the cMOOC learners. The theory of engagement suggests that a learner's engagement has components like cognition, social, and behavior (Atapattu et al., 2019). Studies conducted by these authors state that a higher level of cognition, social, and behavioral engagement, higher will be the learning. The E-engagement theory accentuates learners' meaningful engagement through interaction and active learning. Kearsley and Shneiderman (1998**)** asserted that engagement theory presents a learning model that incorporates technology-based teaching and learning environments that focus on relating, creating, and sharing.

Further, Goh &Yang (2021) applied the dynamics of these approaches to conceptualizing the framework of engagement incorporating the construct of cognition, emotion, behavior, and social to describe how learners feel, think, and respond to different learning styles. However, a few other authors oppressed the proposal by stating that a learner's capability of creating and responding effectively is conditioned to the learning styles, as the quality of e-learning hinges quite a lot on virtual platforms (Orlov et al., 2021; Poon et al., 2022). Many studies in the past supported the idea given by the above-mentioned authors and believe that the quality of learners via virtual platforms is comparatively low. Henceforth, the learners' engagement in the virtual setups can be explained appropriately by applying the theory of connectivism (Chetty, 2013).

Connectivism theory focuses more on the learner's intrinsic value, which often needs validation in the context of cMOOC (Corbett & Spinello, 2020). The modern conceptualized term connectivism integrates the principles of network, complexities, and self-organization (Sumuer, 2021). Additionally, authors also believe that connectivism is more of facilitating learning by conversing and interacting with a social group, learning materials, resources, and other technology-based resources, enabling learners to attain desired outcomes (Boyraz &amp Ocak, 2021), especially in a context of cMOOC, where one needs to continuously check the level of knowledge acquired and its execution in real-time. Anderson (2008) also asserted that the theory of connectivism is more relevant when facilitators intend to enhance and enrich the level of thinking, promoting better understanding and deriving better results from the students' purview of online classes. Henceforth,

this study integrates two theories (e-engagement and connectivism) to analyze indicators of e-engagement among working professionals in virtual learning.

2.2 Connectivist Massive Open Online Courses (cMOOC)

Recently published articles report that Massive open online courses (MOOCs) have marked their presence globally for more than ten years now, still struggling to survive as their average completion rate is less than 10%, with no significant improvement over nearly eight years, requires to improvise on issues like quality, and engagement **(**Reich & Ruiperez-Valiente, 2019; Kizilcec et al., 2020; Poon et al., 2022).

The massive open online courses (MOOC) are now trending and proliferating due to the digitalization and network exchange of technological tools in the education industry. In early 2008, the two Canadian authors, Dave Cormier and Brian Alexander, coined the term MOOC as a platform offering virtual learning opportunities and study materials to learners (Goldie, 2016; Liu & Yu, 2023). Further, Emrani et al. (2018, 2020) classified MOOCs into two categories: Connecting Massive Open Online Course (cMOOC) and Extended Massive Open Online Course (xMOOC). cMOOCs are more driven by the learner's capability to build connections with peer members, promote intellectual conversations through digital platforms, and contribute to knowledge creation regarding study materials and presentations. Small groups of learners share the delivery of content and knowledge in xMOOCs, wherein trainers and traditional university setups have more control over learning. (Li & Yu, 2023). So far, researchers have extensively examined xMOOCs, but there is a need for more studies on cMOOCs. Some researchers are now trying to understand the notion of cMOOc by adopting the theory of connectivism, aiming to develop an interactive course of action (Emrani et al., 2022).

2.3 *E-engagement in cMOOC*

The learning outcomes accentuate the importance of the various dimensions of engagement. As previous research has demonstrated, improved learning outcomes directly result from higher learner involvement and engagement in terms of interaction, participation, and creation. Few researchers discuss the indicators that can draw such engagement among cMOOC learners. Lu & Churchill (2014) and Walker & Koralesky (2021) proposed the approaches to engagement, namely cognitive, behavioral, emotional, and social.

As proposed by Fredricks et al., cognitive engagement is a self-driven force motivating learners to engage in learning activities like interaction and discussion with peer members to achieve set goals or complete the assigned task (Liu & Zainuddin, 2022). Based on the theory of connectivism in cMOOC, the learner's cognitive engagement is considered a set of functions. These functions can develop a behavior of critical reflection, community building, and connective principles (Wang et al., 2017; Srivastava et al., 2023; Venkatesh, 2023). Critical reflection defines the different forms and magnitude of interaction within the connected network, community building derived from the philosophy of relating, creating, and sharing (Kearsley & Shneiderman, 1998), and finally, connectivism demonstrates learners' ability to understand and apply the knowledge of networks in a learning environment.

In addition, learners' behavioral engagement is critical to their success in the learning experience. Many factors significantly impact the learner's behavioral engagement (Sharma & Kelly, 2014). As per the available literature, learners' behavioral engagement has an influence on the time and quality devoted to learning and related activities (Borup et al., 2020). Further, Musyaffi (2022)

states that the theory of connectivism states that any learning can be highly engaging for the learner if he/she carries the element of quality and determination (Autonomy). Literature of the past asserts the concept of autonomy as one of the crucial pillars illuminating students' confidence and building positive attitudes toward learning (Blondeel et al., 2023).
Social learning emerges as activities built around collaborative learning, where participants create and contribute knowledge, intense peer-to-peer interaction results in strong bonds and connections, and the collaborative assignment finishes effortlessly. (Joksimović et al., 2018; Estrada-Molina & Fuentes-Cancel, 2022).

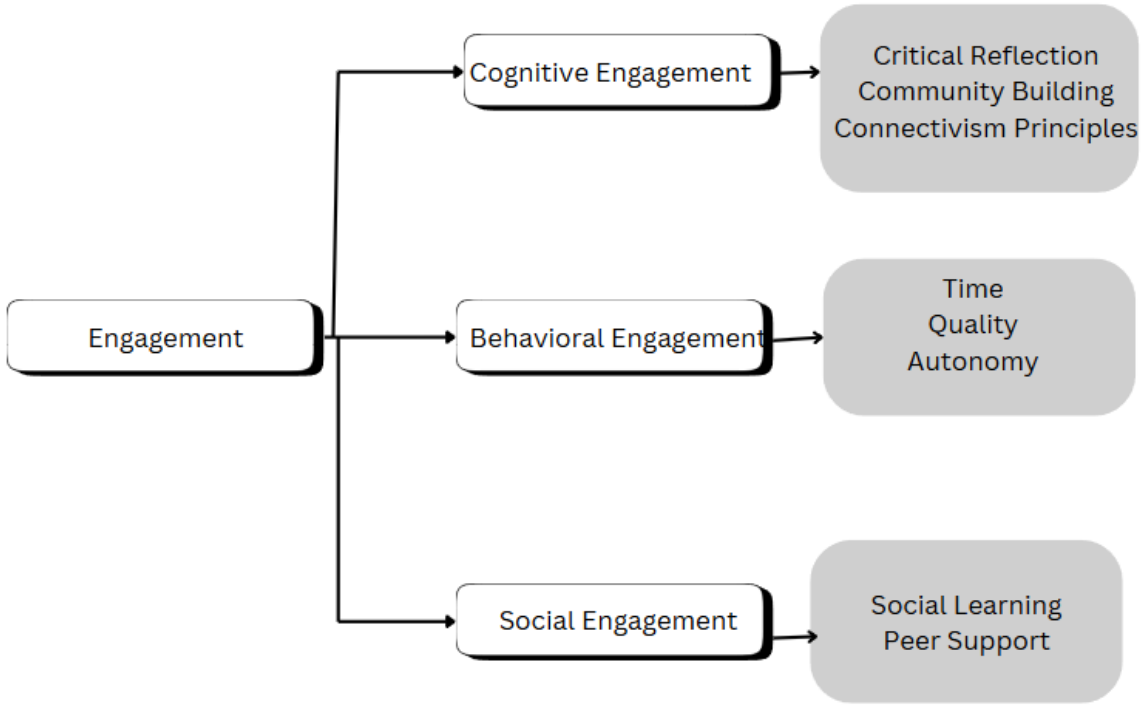

Fig 1 Proposed Framework

3. Research Methodology

Young working professionals who intend to enhance their skills for professional reasons usually opt for cMOOC; hence, this study considered such learners who opted for cMOOC along with their jobs falling under the age group of 21-26. Young learners who have experienced online learning through some online courses, mainly cMOOC, in the areas of organizational learning, leadership, strategic financial decision, design thinking, product management, digital marketing, brand management, luxury marketing, corporate communication, business analytics, data visualization, courses from online platforms like Coursera, Udemy, Data Camp, NPTEL and others were part of the study.
A total of 85 learners working in different capacities opting for MOOC programs from different platforms around North and West India were chosen for the in-depth interviews after the authors decided on the criteria for selecting sample units. They received a written request in the mail outlining the research question and purpose, asking them to participate in the interview. Out of 85 professionals, 66 indicated they would be willing and able to participate in the interview. The study mainly employed a qualitative methodology, and NVivo 14 was used to perform text analytics on

the textual data obtained from the in-depth interview. In order to automatically extract and categorize actionable insights from unstructured text data, text analytics is a subset of natural language processing (NLP) (Chen et al., 2018). Sentiment analysis, or opinion mining, is a text analysis technique to ascertain the respondents' emotional tone and opinions. We designed the subsequent stage to delve further into what are the drivers, following the suggestion made by (M. Burch et al., 2013**)** that codes generated for a body of text can be a starting point for a deeper analysis. Finally, to extract the possible indicators of e-engagement research, thematic analysis was applied to frame the broader themes and extract four essential themes.

4. Finding and Analysis

The authors used Computer Assisted Qualitative Data Analysis Software (CAQDAS) with NVivo 14 on our generated semi-structured data. NVivo performed text analytics, and the crucial factor in the selection process was its visual ability to present unstructured data concisely (Hilal & Al Abri, 2013). The authors chose sentiment analysis (opinion mining) using a sentiment scoring scale ranging from negative to positive. The overall sentiment (opinion) of the young learners on their experience with online learning engagement ranged from moderately positive to very positive, as presented in the heat map and radar chart.

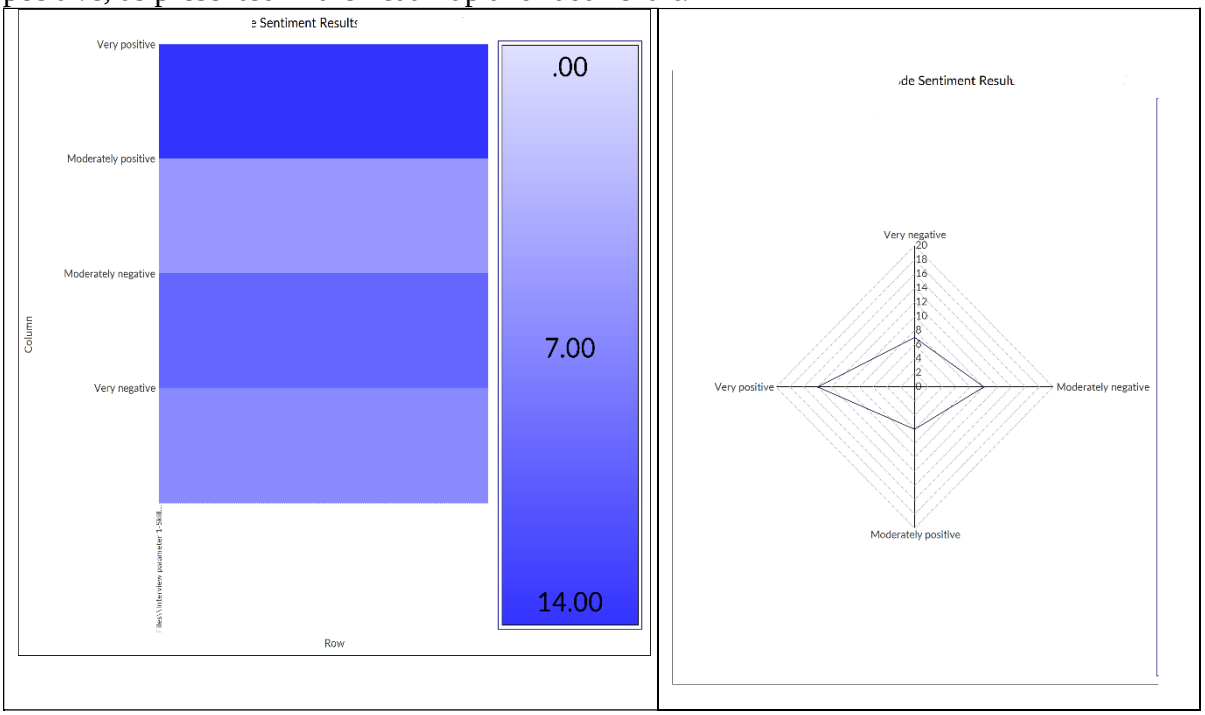

Figure 2 Sentiment Analysis: Heat Map/ Radar Map

Researchers spoke with them in interviews in order to learn more about the emotions that young learners experience when participating in online learning while pursuing cMOOCs. The findings showed that students' opinions about the experience were divided, with some expressing positive sentiments. Some learners showcased their positive sentiments. However, few of them have spoken about their negative experiences, too.

After understanding the sentiment of the learners toward the online learning experience, showing mixed emotions and optimism, the study further focused on identifying the drivers or the factors

that significantly influence online learning engagement among young learners by applying thematic analysis. Braun and Clark (2006) describe the method as a tool to comprehend and interpret data. In addition, Terry et al. (2017) encapsulate thematic analysis as an effective way of extracting meaningful descriptions of the transcripts collected from the given datasets.

The present research categorized eight important, challenging areas under the three dimensions of the E-engagement theory. The conceptual framework of the study is presented in Figure 1.

#4.1 Cognitive Engagement

4.1.1 Critical Reflection

Learners' critical reflection in the context of connectivist Massive Open Online Courses (cMOOCs) is the process by which learners actively participate in careful examination and analysis of learning experiences, concepts, and relationships inside the networked and collaborative learning environment. This kind of reflection entails a deeper, more analytical examination of the material, conversations, and cooperative activities inside the cMOOC, beyond merely summarizing what has been learned. A crucial part of education is thoroughly reviewing and evaluating learning events. It entails a methodical examination of all the components of the learning process, such as the instructional strategies, the material, and learner engagement.

As the topics of discussions and interaction are more unstructured, many times, discussions deviate from the core topic. Participant 19

Mostly, the learning experience is hampered by the unstructured method of education, where learners are free to select topics and methods of discussion. Participant 41

Often, I need a facilitator to control the discussion and give remarks on the discussion to check the authenticity of the learning. Participant 55

The results reflect the magnitude and significance of learners' critical reflection during cMOOC. Initially, participants agreed that during cMOOC, some short academic discussion happens, which helps them get varied thoughts and opinions on the given topic. On the other side, participant also believes that the nature and magnitude of the discussion influence learning (Tawfik et al., 2017)

Connectivist Massive Open Online Courses, or cMOOCs, are renowned for their learner-driven, decentralized methodology in which participants actively produce and exchange knowledge within a networked setting (Khalil et al., 2023).

4.1.2 Building Community

Another critical observation featured in this study was on the aspect of facilitating community building during cMOOC. Learners believe that course offerings combine group projects, experiential learning, class activities, videos, webinars, and role plays to strengthen learners' connections and bonds within the learning communities.

During cMOOC, I got an opportunity to build personal relations with the other learners, and I found them supportive in my future professional life. Participant 1

One of the advantages of doing group projects during cMMOC team members of my group is diverse experience and education, further enabling me to acquire analytical skills, problem-solving abilities, and insight on how and when to apply the knowledge. Participant 27

The study's findings highlighted some gains from cMOOCs, and building bonds with peer members is one of them. Recent research also asserted that cMOOC built a strong web community among learners for more meaningful and effective learning (Wise & Cui, 2018; Antonaci et., 2019; Campos et al., 2022; Srivastava et al., 2023).

4.1.3 Connectivism Principles

The study's respondents explicitly mentioned that the knowledge of technology and its application in MOOC classes percolates the apprehension regarding online learning and engagement. Higher engagement in online MOOC courses observes among student's adept at using and gaining access to new technologies. Based on the principles of connectivism, technology plays a significant role in facilitating learning via different online collaborators and technological tools. These tools efficiently provide access and connect among the learners, delivering collaborative learning experiences. Henceforth, learners' capability to handle technology in learning plays a crucial role in deriving engagement.

Today's generation is well equipped with the technology; they sleep, drink, and eat technology and hence know better usage and application. participant 23

I have a masters in technology; hence, I can drag and share any conversation, information, and knowledge from different online platforms, and I love sharing it with my peers members. This increases my engagement time with my team members as well. participant 30

Connectedness facilitates the idea of grouping with the networked learning communities and collecting relevant information using technology as an interface (Dunaway, 2011). According to the theory of UTAUT, people who can access and use technology can complete tasks more effectively (Venkatesh et al., 2003; Venkatesh, 2023).

4.2 Behavioral Engagement

4.2.1 Time Management

For successful learning, autonomy plays an important role. The present study highlights the aspect of time management as a crucial indicator to measure the magnitude of engagement of learners during cMOOC.

Thanks to the learning tools used in MOOC, they support my on-time submission of assignments. I am now more engaged in this course of action. participant 18

However, most of the participants submitted their concern about breaking continuity for some cMOOC programs as they demand long hours and duration.

The duration of the course gradually weakens and breaks the connection with the learning. Participant 22

Although this method has benefits, it also presents continuity issues based on the time and duration they require to invest in the program and could have various negative effects on learners' engagement (Bai & Xiao, 2023).

4.2.2 quality

The study's findings reveal the quality as an indicator of learner engagement with cMOOC. Research in the past supports the idea of learners' behavioral engagement with the podcasts, videos, and webinars facilitated by the cMOOC (Estrada-Molina & Fuentes-Cancel, 2022). McClure and Williams (2021) suggest that one must give learners enough resources, such as discussion forums, podcasts, videos, study notes (or materials, like a PowerPoint presentation), links to websites, and other materials, in order to reduce transactional distance and increase learner- interaction.

I sometimes feel that, as the nature of instruction is very unstructured, it provides scope for content creators to go hay-way. participant 44

I think the study materials and other learning resources must be checked and edited by the subject experts from education and industry. Participant 28

I think the study materials basically instigate learners' learning engagement. Participant 51

Extracting the findings of the above literature, one can conclude that the quality of study materials, web-based learning tools, and methods are deriving learner's engagement in cMOOC.

4.2.3 Autonomous Learning

The degree to which learners take ownership of their learning experience. Pursuing independent research, exploring topics of personal interest, and setting personal learning goals. According to Sevnarayan (2022), a learner's autonomy is determined by their intention and level of readiness to assume responsibility for their education and develop self-motivation to attain future goals. Zhong (2020), proposes that learners' own behavior and motivation engage in online learning.

My reason for opting for MOOC is to upscale my present knowledge and skills so that I can grow in my professional career. participant 62

MOOC facilitates creative thinking and ideation processes. I design and conceptualize course materials and post in on learning tools to receive peer feedback. participant 65

Compared to learners with less autonomy, those with higher autonomy generally perform better and exhibit a stronger desire to improve. Students with high autonomy tend to achieve more significant results and perform well (Lan & Hew, 2020; Billsberry & Alony, 2023).

4.3 Social Engagement

4.3.1 Social learning

Studies conducted in the past highlight the strong association between learners' ability to socialize with their peer members and learning outcomes. In order to assist students in maximizing their access to potential social capital in a networked environment

My subject knowledge could be better than others, so I prefer listening to the discussions rather than being part of them. participant 60

For me, discussions engage in vocal form rather than through chat boxes or writing messages. participant 56

knowledge sharing in social media sometimes goes hay-way when there is no control of trainers. participant 11

The research findings highlighted a few drawbacks of MOOC allowing social learning as not very advantageous for learners. The learning cMOOC is subject to a few limitations regarding e-engagement, and most importantly, interaction is one of them. In addition, the absence of trainers loosens the tempo of discussions and participation. (Diordieva, & Bonk, 2023). Along with this, another significant observation asserts that learners look forward to the technical tools that can enhance the level of interaction, like more in-person interactions, peer-to-peer interactions, and vocal interactions over chat boxes or messages (Pham et al., 2022).

4.3.2 Peer Support

Issue of fully engaged in a dynamic learning network where learners play brinkmanship with the abundance of people, discussions, and comments on a subject that sometimes interests you or not. This heavily depends on the members you are with.

My fellow learners encourage me to take the lead in group discussions. Gradually, their support is building confidence in me. participant 28

I think team members' personal values and life goals decide whether they are going to complete the assigned task effectively or not. participant 47

You build a network of personal connections through skillful facilitation, the insights and support of other participants, and your own persistence. These connections act as metaphorical flying buttresses, providing enough stability to enable you to learn in a novel yet profoundly meaningful way—the connectivist massive open online course (cMOOC) way (Bali et al., 2015; Gamage et al., 2018; Xu, & Du, 2022).

5 Discussion of findings

The proposed study comprehends the results of young learners' sentiments to understand the challenges they faced during their cMOOC journey and to identify the indicators that affect learners' level of engagement. Following a qualitative analysis of the semi-structured data, we deduced three main issues from the emerging themes: cognitive engagement, behavioral engagement, and social engagement. These categories further developed eight sub-themes: critical reflection, community building, connectedness, time, quality, autonomy, peer support, and social learning.

The findings demonstrated that the learners in the cMOOC experienced few major challenges in the category of behavioral engagement, where learners found that the quality of content and resources sometimes are average and not very competitive; hence, learners having sound knowledge and work experience in the related field start losing the interest to continue the program. Along with the length and duration of the program, it often breaks the continuity and leads to boredom. Further, the research findings observed a few more challenges regarding social engagement. Learners believe that social learning is person-specific and more about learners' personalities to take benefits out of it. Alongside, learners find themselves more engaged when discussions are allowed to happen in the flipped classrooms or when joining the activity rooms rather than when the discussions and interaction happen in the setting where the setup is a regular classroom. This study made a crucial discovery: Most learners believe that cMOOCs are more unstructured and happen without facilitators, which causes two main problems for them; firstly, after some point in time, discussion or interaction goes hey-way and is irrelevant to the topic assigned, and secondly, as there is no presence of experts or facilitators hence, the validation and credibility of shared knowledge come under the question mark.

Finally, learners were fine with cognitive engagement as they are from Gen-Z and Y. They are familiar with the technology and its usage and found it a good platform for social development. However, there was minimal discomfort regarding critical reflection regarding engagement, and most importantly, interaction is one of them. In addition, the absence of trainers loosens the tempo of discussions and participation. Along with this, another significant observation asserts that learners look forward to the technical tools which can enhance the level of interaction like more in-person interactions, peer-to-peer interactions, vocal interactions over chat boxes or messages

5.1 Implication

The learners of cMOOCs firmly support the advantage of cognitive engagement in developing community and connectedness, which further enhances the nature and magnitude of learning and knowledge acquisition. Despite this, learners also encounter a few behavioral and social-engagement challenges, which need attention and solutions. These insights of learners pinpointing the challenges provide practical implications for policymakers and edtech companies, which are presented here as an outcome of the study: in the context of cMOOC, an unstructured flow of knowledge and lack of facilitator to comprehend and validate the content required a structured format where the peer interactions can happen with more meaningful outcomes and engaged the learners. Appropriate follow-up and reminders to finish the assignment can alleviate observed engagement issues among the learners and break the monotony of extended periods and boredom. This can be managed by involving some /sort of a minimal financial burden as a registration charge to motivate learners to complete the course and manage course dropout rates. Although companies are charging for the course, there should also be some registration charges to trigger learners' price cues.

Furthermore, as learners' behavioral engagement is less due to the quality of study materials and other resources like webinars and podcasts regarding knowledge delivery, Edtech companies can design a program or module focusing on disseminating practical knowledge rather than theoretical knowledge. To accomplish this, the program should create learning pedagogies that include more problem-solving, critical thinking, and simulation exercises. In addition, application-based questions and answers should predominate over multiple-choice questions (MCQs) in the evaluation structure. As cMOOC is preferred by working professionals, the learning environment should focus on knowledge sharing rather than gaining. Finally, the foremost important outcome of the study drawing an essential implication for policymakers and marketers is to build a program with elements of trust and credibility. They must design the program where they can strongly refer to its validity and credibility.

5.2 Limitation and Future Direction

The initial aim of the research was to document the learner's sentiments on cMOOCs and further extract factors that may or may not contribute to e-engagement because the study reported a few limitations. Due to the exploratory nature of research, the present study focused on identifying the indicators of e-engagement; however, it ignored considering the outcomes of engagement. Another limitation of the study was that researchers should have considered the environmental factors that can guide the learner's ability differently based on factors like the technical or non-technical nature of the course, course prerequisites, and the educational background of the respondents in the account. These factors may have different requirements attached to the delivery and the outcomes. Future studies can focus on measuring the outcome of the e-engagement in terms of performances or achievements. Also, while interviewing the students, the investigation was more focused on knowing the factors that kept students engaged with the course rather than taking a holistic view of the experience they acquired. So, in the future, researchers can determine learners' experience of cMOOC and its impact on the desired outcomes. For this, in the future, authors can do quantitative research to validate the qualitative research findings. Henceforth, the authors recommend a quantitative analysis to validate the driver's correlation with the student's engagement and learning outcomes. Finally, future researchers can select the respondents from different demographic profiles to measure the difference in e-engagement based on their profiles.

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