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## Online learning platforms in Bangladesh: A comparative study on Bangladeshi MOOC-based learning institutes

Md. Harun Ar Rashid<sup>1</sup>, Dr Md. Nazmul Islam<sup>2</sup>

<sup>1</sup>Research Student Department of Information Science and Library Management University of Rajshahi, Bangladesh-6205

<sup>2</sup>Chairman and Professor Department of Information Science and Library Management University of Rajshahi, Bangladesh-6205

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### ABSTRACT

This study compares Bangladeshi MOOC-based learning institutions to examine the current situation of online learning platforms in Bangladesh. Purposive sampling in survey research was used to collect data from five institutions in Dhaka, including government and commercial organizations. The purpose of the study was to investigate the following topics: the reasons for providing online courses; the kinds of courses and materials offered; the target audience; teaching strategies; learner activities; and the difficulties faced by MOOC providers. A standardized questionnaire with a five-point Likert scale was used to gather the data. Descriptive statistics were employed to analyze the data. The results show various course offerings, emphasizing spoken language instruction, admission and skill development courses, and curriculum support resources for secondary schools. The primary target audience consists of adults and students, with the institutions hoping to lower the cost of education, improve accessibility, and close the gap between formal and informal education. In addition to exams and assignments, the study lists web-based communication platforms, multimedia tools, and video recordings as common instructional techniques.

On the other hand, issues with learner motivation, restricted internet connection, real-time engagement, and the quality of the course materials were also noted as common challenges. Based on these results, the study suggests introducing interactive elements, improving content accessibility and clarity, developing student engagement, and overcoming communication gaps to customize learning materials to varied learner requirements. This research adds to our understanding of the MOOC-based learning environment that exists in Bangladesh today and offers insightful information for future growth and development that will increase the overall efficacy of this teaching strategy.

### Introduction

The effective reach of education has increased dramatically with the incorporation of technology, moving from traditional classroom instruction to distance learning and,

more recently, online distance learning. Massive Open Online Courses, or MOOCs, are the most modern and well-known sort of remote education; however, they span many other dimensions. MOOCs are lifetime learning tools that will help people keep up with the rapid developments

\*Corresponding author.

E-mail address: har1610747135@gmail.com

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in Information and Communication Technology (ICT). They are a representation of the future of education. While MOOCs are still a relatively new trend, they differ greatly from regular distance learning as well (Bates, 2014). Dave Cormier and Bryan Alexander first used the term MOOC in 2008 (Fasimpaur, 2013) in response to an open online course that George Siemens and Stephen Downes had developed (Stephens & Jones, 2015). The early official MOOC launched by the Massachusetts Institute of Technology (MITx) commenced in 2012 (Beltrán Hernández de Galindo, 2019). The purposes of these courses were to offer free access to excellent instructional materials across various disciplines, leveraging digital platforms to reach a global audience. This initiative reflects MIT's commitment to expanding educational opportunities and fostering innovation in online learning. MOOCs are designed mostly by esteemed higher educational institutes to provide an infinite number of students with free, excellent education. Some such MOOC platforms include edX, Coursera, Udacity, and FutureLearn (Almutairi & White, 2018; Shaikh, 2017). The history of hybrid learning and distance education is deeply ingrained in MOOCs (Garrison & Kanuka, 2004), adapting these concepts to the modern online environment. Since their rise to prominence in 2012, many businesses and academic institutions are now providing a range of MOOCs (Chuang & Ho, 2016).

MOOCs have been in existence for a while now. Since then, several schools have offered these courses for free, which has allowed them to reach a wider range of students outside of traditional classroom settings. A process of constant investigation, testing, and analysis of different teaching pedagogies, course layouts, and instructional technology is necessary for MOOC instruction to be effective (Wong, 2016). In the last several years, MOOCs have significantly impacted global education by offering a comprehensive online learning environment encompassing lectures, assignments, email alerts, discussion forums, and quizzes. This format has democratized access to diverse educational resources spanning humanities to sciences, fostering unprecedented levels of content creation by both educators and learners. Each MOOC platform functions as a vast "knowledge base," leveraging crowd intelligence to continuously expand its educational offerings through contributions such as videos, subtitles, lecture notes, questions, forum discussions, Wiki posts, and homework logs (Jiang et al., 2017).

As MOOCs have evolved, while certain courses are open but vast, others are massive but not open (Annabi & Wilkins, 2016). By definition, MOOCs are massive, but some target specialized audiences in specific contexts. Although they typically have no fees, payment is often required for certificates, shifting from a free pedagogical model to a fee-based system for certification (Sidani, 2018). Some

institutions offer MOOCs to advance teaching practices and stay updated on effective delivery methods (Urrutia et al., 2015). To attain the desired results with MOOCs, institutions must acquire new knowledge and abilities as a new form of instruction and learning (Wong, 2016). The New York Times recognized the increasing trend of MOOCs in providing online higher education and branded 2012 as The Year of the MOOCs. Web traffic analysis revealed that developing countries were utilizing these courses significantly (Pappano, 2012). For Coursera, Edx, and Udacity, the percentage of users from the USA was 30.9%, 29.2%, and 30.7%, respectively. In comparison, India accounted for 12.5%, 14%, and 20.7% of the users for these platforms (Pujar & Tadasad, 2016).

High quality, adaptability, wide engagement, and free are the main characteristics of MOOCs (Muzafarova & Kaya, 2014). Millions of individuals who wish to have free or inexpensive access to higher education are starting to view MOOCs as potential (Christensen et al., 2014). MOOCs draw students from a wide range of experiences, areas of expertise, age groups, traditions, motivations, learning habits, abilities, and styles, in contrast to traditional educational institutions. Owing to their many benefits, some scholars see MOOCs as an addition to traditional education (Clark et al., 2017; Hakami, 2018; Lambert, 2020). MOOCs are becoming increasingly popular; every day, more institutions use them. This tendency is driven by several variables, especially at distant learning schools. Tella et al. (2020) identified perceived utility, perceived reputé, and tutor advocacy as the three main elements influencing remote learners' utilization of MOOCs. The highest influence on MOOC utilization was perceived usefulness, which was followed by the impact of institutional reputation. The least significant influence was the advocacy of tutors.

The development and delivery of MOOCs differ concerning audience, pedagogy, platforms, and services. The number and level of knowledge of MOOCs' targeted and actual audiences might differ greatly. In terms of pedagogy, some MOOCs, sometimes called connective MOOCs (cMOOC) foster a community of practice where participants collaboratively develop an understanding of the topic based on interaction principles, while extended MOOCs (xMOOCs) rely on pre-prepared materials and automatically graded exercises based on traditional course structures (Gabel, 2013; McAuley et al. 2010; Wulf, 2014). Learners in xMOOCs typically follow an expert-centered, curriculum-based course model and are often knowledgeable customers. In contrast, cMOOC learners can act as producers, sharing resources among themselves through social networking platforms (Kop & Carroll, 2011; Rosendale, 2017; Siemens, 2013). The leading xMOOC platforms are Coursera, edX, and Udemy (Van De Weghe & Wautelet, 2018). Different platforms used for MOOCs offer varying levels of support and have different

embedded processes. Some MOOCs use the virtual learning environments that are already in place to offer content and facilitate discussion, while others integrate multiple online education and social media platforms to engage students (Smith et al., 2017).

Despite their achievements in providing courses and enhancing their platforms (Onah et al., 2014), MOOCs face significant challenges with high rates of non-completion (Badali, 2022; Bartolome & Steffens, 2015; Höfler et al., 2017; Murray, 2019). Completion rates are often below 10% (Narayanasamy & Elçi, 2020), in other studies the retention rates vary from 3 to 15 percent (Deshpande & Chukhlomin, 2017; Jordan, 2014; Liyanagunawardena et al., 2013), indicating that a tiny portion of students who enroll in a course complete it. This indicates that while MOOCs gained significant popularity among a large number of learners, only a few managed to achieve substantial benefits from them (Huang et al., 2023). The high dropout and low completion rates of MOOCs can be attributed to several factors. The extensive time commitment required for an overwhelming amount of content, the limitation to basic levels of learning, and poor course design leading to lecture fatigue all contribute to participant disengagement. Additionally, unexpected hidden costs, ineffective peer reviews, and instances of trolling further deter learners (Colman, 2013). In addition to these factors, other studies have identified various reasons why learners abandon MOOCs (Barak et al., 2016; Hone & El Said, 2016; Kizilcec et al., 2017; Mourdi et al., 2019). These include language barriers, a lack of self-motivation, insufficient quality of both learners and educators and inadequate support and orientation for MOOCs. According to Dalipi et al. (2018), two primary variables affect dropout rates: MOOC-related issues such as isolation and poor course strategy, and learner-related issues including lack of enthusiasm and time constraints. Improving the efficiency and allure of MOOC systems requires addressing these problems.

However, the dropout ratio of MOOCs is not equal in all countries where the dropout rate in developed countries is higher than in developing countries (Gupta, 2019). This non-completion rate of MOOCs is not only an indicator of the quality learning process (Jordan, 2014) but raises some concerns about its excellence (Diver & Martinez, 2015). The interests in joining MOOCs also differ among the participants. The learners in developing countries engage in MOOCs to get certificates for career development whereas the participants in developed countries participate out of curiosity and personal interest (Alraimi et al., 2015; Brothers, 2017). There were major changes in higher education as a result of the COVID-19 epidemic, with MOOCs becoming a crucial tool. These online resources attracted diverse participants and provided researchers with

new courses. The pandemic highlighted the importance of e-learning, leading to positive educational outcomes and better professional opportunities. Online education fostered shared constructivism, ensuring uninterrupted education for institutional and lifelong learners. The rise of e-learning resources also impacted executive education, focusing on collaboration and active engagement (Bordoloi et al., 2021; Dahleez et al., 2021; Kearney et al., 2021; Raja & Kallarakal, 2021; Tsabedze & Saulus, 2022).

## Literature Review

Bangladesh introduced distance education through the Audio-Visual Cell and improved the Audio-Visual Education Center in 1956. After independence in 1971, innovative teaching strategies led to the establishment of the School Broadcasting Pilot Project, the National Institute of Educational Media and Technology (NIEMT), and the Bangladesh Institute of Distance Education (BIDE). The Bangladesh Open University Act was passed in 1992, providing 86 academic programs through 12 regional centers, 80 sub-regional centers, and 1,545 study centers, serving 637,513 students throughout six academic schools (BOU, n.d.).

In Bangladesh, numerous MOOC-based initiatives have been established to enhance education and professional development. These efforts demonstrate the country's commitment to leveraging digital platforms for learning and skill development. Below are key initiatives highlighting these efforts (Islam, 2019; Islam, 2021):

- **Information Commission (MRDI):** started using Eliademy to provide government personnel with virtual training lessons in support of the RTI (Right to Information) Act of 2009.
- **Dhaka MOOC Exchange (2013):** Established in 2013, it developed a social network for MOOC participants to exchange materials and promote a culture of online learning.
- **10 Minute School:** The largest virtual school network, offering skill-development courses and free instruction from kindergarten through grade 12
- **Shikkhok.com (Teachers' Corner):** A non-profit platform offering Bengali courses since 2012.
- **ShikkhokBatayan (Teachers' Window):** Government-supervised portal where teachers can write about educational themes and develop and distribute digital content under a2i.
- **KishorBatayan (Juveniles' Window):** Provides a forum for young people to learn, exchange, and collaborate on creative ideas.

- **BYLCx (Bangladesh Youth Leadership Center):** Focuses programs on leadership development for youth.
- **Eshosikhi (Let's learn):** Offers courses and test preparations for competitive exams.
- **Global Labor University:** Hosted workshops to develop relevant MOOC content for Bangladesh.
- **British Council:** Offers courses like “Understanding IELTS” via FutureLearn since 2014.
- **Bangladesh-Korea Technical Training Centre (BKKTTC):** Provides training for female migrant applicants through video lectures accessible via the Union Digital Centre’s website.
- **Bangabandhu Sheikh Mujibur Rahman Digital University:** Bangladesh’s first fully digital public university, offering MOOCs to a sizable student body.
- **Muktapaath (Open education):** Offers 75 continuous courses available to companies and individuals for distant learning under a2i.
- **VSDS (Virtual Skills Development System):** Managed by the National Skills Development Authority (NSDA) to develop a skilled labor force for both domestic and international markets.

MOOC-based programs in Bangladesh face several challenges. Firstly, most MOOCs are delivered in English, which is not the first language of Bangladeshis, leading to disinterest among learners. Additionally, there is a dearth of self-inspiration as job-based learning is not a priority, and students often feel unprepared for online courses, resulting in low participation rates. The foreign course content of MOOCs does not align with the distinct curriculum and teaching methods used in Bangladeshi educational institutions, making adaptation difficult. While MOOCs are often free to audit, obtaining certificates usually requires payment, and Bangladeshi students frequently find that the free courses do not fulfill their needs. Between rural and urban learners, there is also a digital gap, with many students unfamiliar with online learning despite high internet penetration, stood at 44.5% of the total population as on 2024. Lastly, the participatory and experimental nature of MOOCs contrasts with the predominantly lecture-based pedagogy in Bangladesh’s higher education system (Islam, 2021; Kemp, 2024).

Students can create groups through MOOCs that surpass geographical and political boundaries, enabling meaningful discussions with individuals from diverse backgrounds and cultures (Ackerman et al., 2016). Consequently, open access

and a limitless number of partakers are two fundamental features of a MOOC (Annabi & Wilkins, 2016). Given that accessing education from top universities is not feasible for everyone, even those in developed regions, due to various reasons (Tobin, 2015), instructors perceived the innovative knowledge of MOOCs to offer meaningful learning experiences globally for free (Ahmed et al., 2017). The initial goal of MOOCs was to give as many students free access to higher education as feasible (Yuan & Powell, 2013). Although MOOCs have gained significant traction and literature in recent years, studies and insights from emerging nations remain scarce. Therefore, the current research aims to explore the teaching-learning practices through MOOCs, focusing on their potential and challenges in Bangladesh. The study will shed light on the services provided by MOOC-based study centers to learners in this context (Ahmed et al., 2017).

## Objectives

MOOC providers are essential to the spread of knowledge across society since they make their services available to learners. They employ learner-friendly techniques, provide a large selection of course alternatives, and foster an atmosphere that promotes relaxed and productive studying. Finding out about the present teaching-learning practices of Bangladeshi MOOC providers is the main objective of this article. Specifically, this research aims to:

- Demonstrate the rationale behind offering online courses;
- Highlight the diverse teaching methods and educational resources provided by MOOC platforms;
- Identify educational activities that are pertinent to MOOC participants;
- Examine the challenges faced by MOOC providers

## Methodology

The study primarily employs a quantitative survey research method with elements of descriptive research. This study investigates the online learning platforms in Bangladesh through a comparative analysis of Bangladeshi MOOC-based learning institutions. Using a survey method, purposive sampling was employed to select three private institutions (10 Minute School, Esho Shiki, Shafin’s English) and two government institutions (Bangladesh-Korea Technical Training Centre, Bangladesh Youth Leadership Center) located in Dhaka. A structured questionnaire was designed to gather data on various aspects such as the number of

courses offered, the legitimacy of online courses, teaching methodologies, educational content, learning tasks, and encountered challenges. The questionnaire responses were quantified using a five-point Likert scale, with qualitative descriptors ranging from “Always” to “Never” assigned numerical values from 1 to 5. Data collected were analyzed and presented using Microsoft Excel and tabular formats. The analysis focused on calculating the mean ( $\bar{x}$ ) and standard deviation ( $\sigma$ ) to evaluate the frequency, importance, and level of agreement with the evaluated criteria. Lower mean values indicated higher frequency, importance, and agreement, while standard deviation values provided insight into the data's variability.

## Data Analysis and Findings

### Name of the courses being offered

MOOC providers were surveyed regarding the number of courses currently available to remote learners. Additionally, they were requested to list the names of these courses and specify the frequency of their offerings. In response, all participants reported providing a diverse array of courses. These included preparatory guidelines for the Secondary School Certificate (S.S.C.) and Higher Secondary Certificate (H.S.C.), admission preparation, skill development, e-training, blended learning, spoken language courses, and IELTS preparation.

**Table 1:** Name and frequency of courses being offered

| Name of courses   | 5 | 4 | 3     | 2  | 1     | Mean | SD   |
|-------------------|---|---|-------|----|-------|------|------|
| S.S.C Guidelines  | - | - | 20    | -  | 80    | 1.40 | 0.89 |
| H.S.C Guidelines  | - | - | 20    | 40 | 40    | 1.80 | 0.84 |
| Admission         | - | - | 33.33 | -  | 66.66 | 1.67 | 1.15 |
| Skill Development | - | - | 33.33 | -  | 66.66 | 1.67 | 1.15 |
| E-training        | - | - | 50    | 50 | -     | 2.50 | 0.71 |
| Blended learning  | - | - | 50    | -  | 50    | 2.00 | 1.41 |
| Spoken & IELTS    | - | - | 100   | -  | -     | 3.00 | -    |

N.B. 1= Always, 2=Often, 3= Sometimes, 4= Rarely, 5= Never; (The number in the cell of Likert Scale indicates percentage)

Table 1 illustrates that 80% of MOOC providers consistently offered S.S.C. guidelines, while 40% frequently provided H.S.C. guidelines. Additionally, approximately 67% of providers always included admission and skill development courses, 50% occasionally offered e-training and blended learning courses, and all providers occasionally presented spoken language and IELTS courses. An analysis of the mean and standard deviation (SD) values was conducted to understand the types and frequency of course offerings. The highest mean score ( $\bar{x} = 3.00$ ) was observed for “Spoken & IELTS” courses, suggesting they are occasionally provided according to the Likert scale. The lowest SD value (0.71) was recorded for “e-training” courses, indicating minimal variability in this offering. Conversely, “blended learning”

courses exhibited the highest SD value (1.41), reflecting a wide distribution of data points. The “S.S.C. guideline” category had the lowest mean value ( $\bar{x} = 1.40$ ), indicating these courses are always provided.

The analysis reveals a significant commitment among MOOC providers to offering essential courses such as S.S.C. guidelines consistently, while other courses like spoken language and IELTS are provided less frequently. The variability in the frequency of different courses highlights the need for a more balanced approach to ensure that all types of courses are readily available to meet diverse learner needs. This study underscores the importance of continuous evaluation and adjustment of course offerings to optimize the educational benefits for remote learners.

### Targeted users

Survey respondents were additionally requested to identify the target audience for their courses. They were given seven optimal categories to choose from when indicating the intended users of their services. The results of this data collection are presented in Table 2.

**Table 2:** Targeted users and frequency of participating by profession and age stages wise

| By Profession   | 5 | 4 | 3   | 2   | 1   | Mean | SD   |
|-----------------|---|---|-----|-----|-----|------|------|
| Students        | - | - | -   | -   | 100 | 1.00 | -    |
| Teachers        | - | - | -   | 100 | -   | 2.00 | -    |
| Businessmen     | - | - | 100 | -   | -   | 3.00 | -    |
| Service Holders | - | - | 100 | -   | -   | 3.00 | -    |
| By Age stages   |   |   |     |     |     |      |      |
| Children        | - | - | 50  | -   | 50  | 2.00 | 1.15 |
| Adolescent      | - | - | 25  | 50  | 25  | 2.00 | 0.82 |
| Adult           | - | - | 25  | 25  | 50  | 1.75 | 0.96 |

N.B. 1= Always, 2=Often, 3= Sometimes, 4= Rarely, 5= Never;

(The number in the cell of Likert Scale indicates percentage)

Table 2 demonstrates that all MOOC providers consistently offer their courses to students, with half of these students being children. Teachers are frequently targeted, whereas businessmen and service providers are occasionally served. Additionally, 50% of providers consistently offer their courses to both children and adults, irrespective of age. The Likert scale analysis reveals that the lowest mean value ( $\bar{x} = 1.00$ ) is associated with the student user group, indicating they are always targeted. Conversely, the highest mean score ( $\bar{x} = 3.00$ ) pertains to the businesspersons and service providers user group, signifying they are sometimes targeted.

The analysis indicates a strong focus on students, particularly children, as the primary audience for MOOC providers. Teachers are also a significant target demographic, reflecting the educational nature of the courses. However, the occasional targeting of businessmen and service providers suggests an

opportunity for MOOC providers to expand their reach to these groups more consistently. The result highlights that the need for a strategic approach to broadening the user base to ensure that diverse learner groups can benefit from the available courses.

### Rationality in providing online courses

Even though physical classes are available, there are various reasons for delivering these online courses. One of the most frequent reasons is to bridge the gap between institutional and non-institutional education by allowing bigger audiences to access course materials at any time. The major goal of such a learning system is to bring education to every person's doorstep so that students do not see school as a burden. Backward folks will be aided by education and will become operational workforce as a result of taking these courses.

**Table 3:** Rationality in providing online courses

| Rationalities  | 5 | 4 | 3  | 2  | 1   | Mean | SD   |
|--|---|---|----|----|-----|------|------|
| Reducing the gap in institutional education              | - | - | -  | 20 | 80  | 1.20 | 0.45 |
| Reducing the overall cost of education                   | - | - | -  | 20 | 80  | 1.20 | 0.45 |
| Increasing the level of expertise                        | - | - | -  | 40 | 60  | 1.40 | 0.55 |
| Facilitating the backward people                         | - | - | 40 | 20 | 40  | 2.00 | 1.00 |
| Making operational human resources                       | - | - | 20 | 20 | 60  | 1.60 | 0.89 |
| Incorporating to meet user demand                        | - | - | 20 | -  | 80  | 1.40 | 0.89 |
| Able to be accessed by a wider audience around the clock | - | - | -  | -  | 100 | 1.00 | -    |
| Save the time of users for education purposes            | - | - | -  | 20 | 80  | 1.20 | 0.45 |
| Reaching out education to every doorstep of people       | - | - | 20 | -  | 80  | 1.40 | 0.89 |
| Introducing more flexibility in teaching and learning    | - | - | -  | 60 | 40  | 1.60 | 0.55 |

N.B. 1= Strongly Agree, 2=Agree, 3= Moderate Agree, 4= Disagree, 5=Strongly disagree; (The number in the cell of Likert Scale indicates percentage); Source for data items: (Wong, 2016)

Table 3 presents an analysis of the rationale behind providing online courses, as perceived by MOOC providers. According to our survey findings, more than 80% of MOOC providers cite various reasons for offering their courses online. These include bridging the gap between institutional and non-institutional education, reducing the overall cost of education, and enabling users to allocate more time for educational purposes ( $\bar{x}= 1.20$ ;  $\sigma=0.45$ ). Additionally, a significant majority (80%) of providers emphasize meeting client demand and enhancing access to education ( $\bar{x}= 1.40$ ;  $\sigma=0.89$ ). Moreover, 60% of providers strongly believe in enhancing operational efficiencies ( $\bar{x}= 2.00$ ;  $\sigma=1.00$ ) and improving competence levels ( $\bar{x}= 1.40$ ;  $\sigma=0.55$ ) as key motivations for delivering MOOC services to their consumers.

The study underscores the multifaceted motivations behind the provision of MOOCs by providers in Bangladesh. The findings highlight a strong commitment to addressing educational accessibility and cost-effectiveness, while also enhancing operational efficiencies and competence levels. These insights suggest that MOOCs are not only perceived as a means to bridge educational gaps but also as a strategic tool for organizational improvement and meeting market demands. Moving forward, it will be crucial for providers to align these motivations with effective implementation strategies to maximize the educational benefits for learners and stakeholders alike.

### Types of teaching system

MOOC providers employ a variety of pedagogical techniques aimed at enhancing the engagement of learners. They consistently utilize several teaching-learning tactics as part of their educational practices.

**Table 4:** Types of teaching system

| Types of teaching system  | 5  | 4  | 3  | 2  | 1  | Mean | SD   |
|---|----|----|----|----|----|------|------|
| Detailed introduction/ video trailer  | -  | -  | -  | 20 | 80 | 1.20 | 0.45 |
| Welcoming lecture   | -  | -  | 40 | 60 | -  | 2.40 | 0.55 |
| Digital media, including infographics, audio recordings, and instructional videos | -  | -  | -  | 60 | 40 | 1.60 | 0.55 |
| Badges or certificates of completion for courses                                  | 20 | -  | 40 | -  | 40 | 2.60 | 1.67 |
| Live video broadcast  | -  | 20 | 40 | -  | 40 | 2.40 | 1.34 |
| Sufficient tasks, study materials, and tests                                      | -  | -  | 40 | 20 | 40 | 2.00 | 1.00 |
| Social networking sites   | -  | -  | 50 | -  | 50 | 2.00 | 1.15 |
| Discussion boards, chat rooms   | 20 | 20 | 20 | 40 | -  | 3.20 | 1.30 |

| Types of teaching system         | 5  | 4  | 3   | 2  | 1 | Mean | SD   |
|----------------------------------|----|----|-----|----|---|------|------|
| Web-based communication programs | 20 | 20 | -   | 60 | - | 3.00 | 1.41 |
| Other (Pl. Specify):             | -  | -  | 100 | -  | - | 3.00 | -    |

N.B. 1= Always, 2=Often, 3= Sometimes, 4= Rarely, 5= Never; (The number in the cell of the Likert Scale indicates percentage); Source for data items: (Wong, 2016)

Table 4 presents 80% of MOOC providers always include a comprehensive introduction or video trailer, while 60% frequently integrate welcome lectures, multimedia resources (such as video lectures, audio files, and infographics), and web-based communication platforms. Notably, approximately 40% of providers consistently offer certificates or badges for course completion, along with live video streams, quizzes, study guides, and assignments. On the Likert scale, the mean value for “detailed introduction/video trailer” as a teaching strategy was the lowest ( $\bar{x}=1.20$ ), indicating it is consistently implemented. Conversely, the highest mean score was observed for “discussion boards, and chat rooms,” suggesting these strategies are frequently employed.

The findings highlight the diverse array of teaching methods and resources utilized by MOOC providers to enhance learner engagement. Strategies such as comprehensive introductions/videos and interactive multimedia could play a crucial part in enriching the learning experience. However, the varying adoption rates of strategies like discussion forums and live broadcasts highlight the significance of tailored instructional design to meet the requirements and preferences of diverse learner groups. Moving forward continued exploration and refinement of these techniques will be essential in optimizing the educational outcomes and user satisfaction within MOOC environments.

## Types of educational content

Survey respondents were also queried about their preferences regarding educational content offered to learners. They were presented with ten effective methods for identifying instructional content for consumers. The results of this inquiry are detailed in Table 5.

**Table 5:** Types of educational content

| Types of educational content             | 5  | 4  | 3  | 2  | 1  | Mean | SD   |
|--|----|----|----|----|----|------|------|
| Reading text only (e.g. pdf)             | 40 | 20 | 20 | -  | 20 | 3.60 | 1.67 |
| PowerPoint presentation only             | -  | 20 | 20 | 40 | 20 | 2.40 | 1.14 |
| Audio alone (lecture recording on audio) | 40 | 40 | -  | 20 | -  | 4.00 | 1.22 |

|   |    |    |    |    |    |      |      |
|---|----|----|----|----|----|------|------|
| Video alone (lecture recording on video)                  | -  | -  | 20 | -  | 80 | 1.40 | 0.89 |
| PowerPoint with audio (PowerPoint with audio explanation) | -  | -  | 20 | 60 | 20 | 2.00 | 0.71 |
| PowerPoint with video (PowerPoint with video explanation) | 20 | -  | -  | 60 | 20 | 2.40 | 1.52 |
| Animated PowerPoint (e.g. Flipped PowerPoint)             | 20 | -  | -  | 20 | 60 | 2.00 | 1.73 |
| Animated text (e.g. Flipped Notes/Articles)               | 20 | 20 | -  | 40 | 20 | 2.80 | 1.64 |
| Audio-text combination (Notes with audio clarification)   | 20 | 20 | 20 | 20 | 20 | 3.00 | 1.58 |
| Video-text combination (Notes with video clarification)   | 20 | -  | 20 | 20 | 40 | 2.40 | 1.67 |

N.B. 1= Always, 2=Often, 3= Sometimes, 4= Rarely, 5= Never; (The number in the cell of Likert Scale indicates percentage)

Among the surveyed MOOC providers, video recordings of teaching content emerged as the most favored type, preferred by 80% of respondents ( $\bar{x}= 1.40$ ;  $\sigma=0.89$ ). Animated PowerPoint presentations (60%,  $\bar{x}= 2.00$ ;  $\sigma=1.73$ ), PowerPoint presentations with audio ( $\bar{x}= 2.00$ ;  $\sigma=0.71$ ), and video-based content ( $\bar{x}= 2.40$ ;  $\sigma=1.52$ ) were also highly preferred by 60% of the respondents. Conversely, audio recordings of teaching content and text-only formats such as PDFs were less favored types of instructional content, as indicated by 40% of respondents.

These findings underscore the preference among MOOC providers for multimedia-rich educational content, particularly video-based formats, which are perceived as effective tools for enhancing learner engagement and comprehension. The varying degrees of preference for different content types suggest the importance of offering diverse instructional materials to cater to the diverse learning preferences of MOOC participants. Moving forward, leveraging multimedia content effectively can significantly enhance the educational experience and outcomes within MOOC platforms.

## Learning tasks

Survey participants were also queried about their perceptions regarding the most advantageous learning tasks for users. They were presented with ten viable options to identify user-friendly learning activities. Table 6 presents the findings of this investigation.

**Table 6:** Useful Learning Tasks

| Learning tasks        | 5  | 4  | 3  | 2  | 1   | Mean | SD   |
|-----------------------|----|----|----|----|-----|------|------|
| Assignment submission | -  | 20 | -  | 40 | 40  | 2.00 | 1.22 |
| Checking progress     | -  | -  | 20 | -  | 80  | 1.40 | 0.89 |
| Discussion Board      | -  | -  | 20 | 40 | 40  | 1.80 | 0.84 |
| Check notice board    | -  | 20 | 20 | 40 | 20  | 2.40 | 1.14 |
| PowerPoint Slides     | -  | -  | 20 | 40 | 40  | 1.80 | 0.84 |
| Lecture videos        | -  | -  | -  | -  | 100 | 1.00 | 0.00 |
| Quiz question         | -  | 20 | -  | 20 | 60  | 1.80 | 1.30 |
| Examination           | -  | -  | -  | 20 | 80  | 1.20 | 0.45 |
| Group discussion      | -  | -  | -  | 60 | 40  | 1.60 | 0.55 |
| Live group chat       | 40 | -  | 20 | 20 | 20  | 3.20 | 1.79 |

N.B. 1= Very useful, 2=Useful, 3= Moderately useful, 4= Somewhat useful, 5= Useless; (The number in the cell of the Likert Scale indicates percentage); Source for data items: (Sarker et al., 2019)

All surveyed MOOC providers unanimously prioritize “lecture videos” as fundamental learning activities. A significant majority (80%) also regard “monitoring progress” ( $\bar{x}$  = 1.40;  $\sigma$  =0.89) and “examinations” ( $\bar{x}$  = 1.20;  $\sigma$  =0.45) as highly beneficial tasks for learners. Moreover, more than half of the respondents (60%,  $\bar{x}$  = 1.80;  $\sigma$  =1.30) perceive “quiz questions” as effective learning tools. However, less than half of the providers (40%) consider “live group chat” to be an ineffective activity ( $\bar{x}$  = 3.20;  $\sigma$  =1.79) in their educational contexts.

These findings underscore the consensus among MOOC providers on the effectiveness of certain learning tasks such as lecture videos, progress monitoring, and examinations. However, there exists variability in perceptions regarding the utility of interactive activities like quiz questions and live group chats. This highlights the importance of understanding and adapting learning activities to align with the preferences and educational needs of MOOC participants. Moving forward, optimizing the selection and implementation of these tasks can enhance engagement and learning outcomes within MOOC environments.

## Challenges

MOOC providers in Bangladesh, akin to their counterparts in many other developing nations, encounter substantial obstacles in deploying online learning initiatives. Key challenges regarding the establishment of MOOC-based teaching-learning environments were identified to solicit feedback from providers. The findings of this inquiry are presented in Table 7.

**Table 7:** Challenges in providing MOOC

| Challenges   | 5  | 4  | 3  | 2  | 1  | Mean | SD   |
|--|----|----|----|----|----|------|------|
| Incompatible learning materials to the group of learners who are using 1 <sup>st</sup> time MOOC courses | -  | -  | 40 | 60 | -  | 2.40 | 0.55 |
| The non-interactive nature of course materials discouraged learner and instructor communication          | 20 | -  | -  | 40 | 40 | 2.20 | 1.64 |
| Online materials are inadequate or didn't understand for self-study                                      | 20 | 20 | -  | 20 | 40 | 2.60 | 1.82 |
| Lack of enthusiasm, activeness, and apathy of learners   | -  | 20 | 20 | 40 | 20 | 2.40 | 1.14 |
| Communication gap between the teachers and learners  | -  | -  | 20 | 20 | 60 | 1.60 | 0.89 |
| Insufficient course materials delay in response to the teachers  | -  | 20 | 40 | -  | 40 | 2.40 | 1.34 |
| Lack of adequate time and effort to design course content  | 20 | -  | 40 | 20 | 20 | 2.80 | 1.48 |
| Without in-the-moment communication, inquiries may be ignored, especially if the concepts are unclear    | 20 | 20 | 20 | 40 | -  | 3.20 | 1.30 |
| Some learners just download learning materials and do not participate in quizzes and assignments         | -  | 20 | 20 | 40 | 20 | 2.40 | 1.14 |
| Some learners avoid evaluation   | 20 | -  | 20 | 40 | 20 | 2.60 | 1.52 |
| Internet access and power failure  | -  | -  | 40 | -  | 60 | 1.80 | 1.10 |

N.B. 1= Severe Problem, 2=Problem, 3= Moderate Problem, 4= Slight problem, 5= No problem at all; (The number in the cell of Likert Scale indicates percentage); Source for data items: (Sarker et al., 2019; Ahmed et al., 2017)

The table shows that the most common challenges are related to the course materials and learner engagement. The following are the top three challenges, based on the average mean scores:

- Insufficient real-time contact and queries that may be oddly rejected, especially if they don't provide enough clarification (Mean: 3.20).

- Incompatible learning materials to the group of learners who are using MOOC courses (Mean: 2.40).
- Online materials are inadequate or didn't understand for self-study (Mean: 2.60).

These findings suggest that MOOCs in Bangladesh may not be well-suited for self-directed learners who need a lot of guidance and support. The lack of real-time interaction and inadequate course materials may make it difficult for learners to understand the material and stay engaged in the course.

Here are some additional observations from the table:

- Internet access and power failures are also major challenges for MOOC learners in Bangladesh (Mean: 1.80). This is likely because Bangladesh is a developing country with limited infrastructure.
- Some learners avoid evaluation (Mean: 2.60) and some students only download course materials without taking the tests or completing the homework (Mean: 2.40). This suggests that there may be a lack of motivation or engagement among some MOOC learners in Bangladesh.

Overall, the findings of this study suggest that several issues require attention to improve the quality of MOOCs in Bangladesh. These challenges include the need for more interactive course materials, better learner support, and improved internet access.

## Recommendations

This study identified several challenges faced by MOOC providers in Bangladesh. The following recommendations are proposed to address these challenges and enhance the inclusive efficiency of MOOC-based learning in the Bangladeshi context:

**a) Tailoring learning resources:** MOOC providers should adapt their learning resources to provide to the varied requirements and backgrounds of first-time MOOC users. This can be achieved by incorporating clear instructions, supplementary materials, and resources tailored to different learning styles to promote comprehension and engagement among learners.

**b) Fostering interactive learning environments:** The incorporation of interactive features such as discussion boards, live chat rooms, and collaborative group projects can significantly enhance learner engagement. Encouraging frequent interaction between instructors and students can further improve learning outcomes and maintain student motivation.

**c) Enhancing online material clarity and accessibility:** It is crucial to ensure that online resources are comprehensive,

logically structured, and user-friendly to facilitate self-directed learning. Additionally, providing supplementary tools and support services can empower learners to navigate the learning materials independently.

**d) Addressing student motivation and commitment:** Approaches such as gamification, expert teamwork activities, and the incorporation of real-world applications can be employed to make an extra engaging and stimulating learning atmosphere. These approaches can effectively address concerns related to student motivation and participation.

**e) Bridging communication gaps:** Establishing efficient communication channels between instructors and students is paramount. This can be achieved by implementing prompt feedback mechanisms and fostering supportive learning communities. Encouraging open communication and active engagement can further aid in clarifying concepts and addressing student queries promptly.

**f) Ensuring timely availability of course materials:** Implementing effective content production and distribution processes can address delays in the availability of course materials. Allocating sufficient resources and support systems can ensure timely updates and revisions to course content.

**g) Investment in course design and development:** Dedicating adequate time and resources to the planning, development, and evaluation of course materials is crucial. The application of best practices in instructional design can significantly enhance the effectiveness, relevance, and clarity of the learning content.

**h) Promoting real-time interaction:** Providing tools for real-time communication and support, such as online forums, live question-and-answer sessions, and virtual office hours, can foster active learner engagement. Encouraging active participation in these forums can create opportunities for immediate concept clarification and knowledge exchange.

**i) Encouraging active participation in assessments:** Highlighting the role of quizzes, assignments, and assessments in facilitating learning and skill development can encourage active participation in these activities. Implementing reward systems and recognition programs for completing assessments can further incentivize learners.

**j) Mitigating infrastructure challenges:** It is recommended that MOOC providers explore alternative content distribution methods, offer offline access options, or collaborate with regional infrastructure providers to address issues related to internet connectivity and power outages.

## Conclusion

MOOCs entice ample greater enrollments than traditional university classes and provide open content and access to educational materials at little or no cost (Kennedy,

2014). They are among the most unconventional teaching (Liyanagunawardena et al., 2013) and learning delivery methods (Kumar, 2019) that have revolutionized the field of distance education (El-Hmoudova, 2014) since the advent of the Internet (Sidani, 2018). MOOCs offer new opportunities for delivering anytime, anywhere education (Barclay & Logan, 2013) to those unable to attend conventional classes due to high costs (Wu & Chen, 2017). Learners can participate from home and earn certificates from prestigious universities in various disciplines, making education more cost-effective (Kennedy, 2014; Pujar & Tadasad, 2016). Additionally, MOOCs facilitate significant social change (Agrawal, 2016) and promote the democratization of education (Höfler et al., 2017). Therefore, MOOCs may be defined as innovative educational platforms that connect a global network of educators, learners, and affiliates, transcending geographical boundaries, and minimizing high costs, bridging cultural, digital, and knowledge divides between developed and developing regions, promoting the free flow of open learning.

A comparison of MOOC-based learning institutions in Bangladesh yields numerous important conclusions. First off, MOOC suppliers in Bangladesh supply a wide selection of courses, with a focus on basic knowledge like S.S.C. rules and, on occasion, more advanced abilities like IELTS preparation. The kinds of courses that are provided vary, with IELTS and spoken language courses being more variable than more organized programs like S.S.C. standards. MOOC platforms aim to reach a wide range of users, including educators, business people, students, and service providers. However, they do not always do this consistently. Compared to other user groups, businesspeople and service providers are specifically targeted more frequently.

In Bangladesh's MOOC environment, the main justifications for providing online courses are to close educational gaps, cut expenses, and increase accessibility. In addition to improving operational effectiveness and educational results, providers strive to satisfy customer requests. The incorporation of interactive platforms such as discussion boards and multimedia materials highlights the endeavors towards crafting captivating educational encounters. Notwithstanding these endeavors, obstacles such as insufficient instructional resources, restricted in-person communication, and technological impediments like internet connectivity and power outages continue to exist, which may impede efficient education and involvement.

Based on the study's findings, some suggestions may be made to develop the efficacy of MOOC platforms in Bangladesh. First and foremost, attention has to be given top priority to resolving issues with course materials and student involvement. This can entail raising interactive components to encourage in-the-moment interaction and enhancing the caliber and appropriateness of online content. Second,

it's critical to implement measures to lessen technological difficulties, such as enhancing internet infrastructure and guaranteeing a steady supply of electricity. Lastly, encouraging a culture of active engagement via rewarding quizzes and interactive exercises may improve student motivation and total course completion rates. These suggestions can help Bangladeshi MOOC providers better achieve their learning goals and meet the various demands of their varied student base.

It is crucial to remember that the limited sample size of this study means that its findings could not apply to all MOOC students in Bangladesh. Furthermore, the study does not account for the variety of learning styles among MOOC participants. To guarantee that the results are more indicative of the general population, future studies should try to include a bigger and more varied sample of MOOC students throughout Bangladesh. Studying how various learning styles affect MOOC participation and success might also be helpful. A possible way to do this would be to look at how different interactive components, support systems, and instructional designs accommodate different learning styles. By looking at these areas, future research might offer a more thorough knowledge of how successful MOOC-based education is in Bangladesh and pinpoint methods to improve results and engagement for a wider variety of students.

## References

- Ackerman (S), Mooney (M), Morrill (S), Morrill (J), Thompson (M), and Balenovich (L K). Libraries, massive open online courses and the importance of place: Partnering with libraries to explore change in the Great Lakes. *New Library World*. 117, 11/12; 2016; 688-701. <https://doi.org/10.1108/NLW-08-2016-0054>
- Agarwal (A). The global MOOC moment: Massive open online courses, though controversial, are improving lives all over the world. *US News*. 2016, February 1. Retrieved from [www.us-news.com/news/best-countries/articles/2016-02-01/the-global-mooc-moment](http://www.us-news.com/news/best-countries/articles/2016-02-01/the-global-mooc-moment)
- Ahmed (S S), Khan (E), Faisal (M), and Khan (S). The potential and challenges of MOOCs in Pakistan: A perspective of students and faculty. *Asian Association of Open Universities Journal*. 12, 1; 2017; 94-105. Emerald Publishing Limited. <https://doi.org/10.1108/AAOUJ-01-2017-0011>
- Almutairi (F) and White (S). How to measure student engagement in the context of blended-MOOC. *Interactive Technology and Smart Education*. 15, 3; 2018; 262-278. <https://doi.org/10.1108/ITSE-07-2018-0046>
- Alraimi (K M), Zo (H), and Ciganek (A P). Understanding the MOOCs continuance: The role of openness and reputation. *Computers and Education*. 80; 2015; 28-38. <https://doi.org/10.1016/j.compedu.2014.08.006>

- Annabi (C A) and Wilkins (S). The use of MOOCs in transnational higher education for accreditation of prior learning, programme delivery, and professional development. *International Journal of Educational Management*. 30, 6; 2016; 959-975. <https://doi.org/10.1108/IJEM-05-2015-0057>
- Badali (M), Hatami (J), Banihashem (S K), et al. The role of motivation in MOOCs' retention rates: A systematic literature review. *Research and Practice in Technology Enhanced Learning*. 17, 5; 2022. <https://doi.org/10.1186/s41039-022-00181-3>
- Barak (M), Watted (A), and Haick (H). Motivation to learn in massive open online courses: Examining aspects of language and social engagement. *Computers and Education*. 94; 2016; 49-60. <https://doi.org/10.1016/j.compedu.2015.11.010>
- Barclay (C) and Logan (D). Towards an understanding of the implementation and adoption of massive online open courses (MOOCs) in a developing economy context. Paper presented at the *Proceedings Annual Workshop of the AIS Special Interest Group for ICT in Global Development*, Milano, Italy. 2013.
- Bartolome (A) and Steffens (K). Are MOOCs promising learning environments? *Comunicar*. 22, 44; 2015. <https://doi.org/10.3916/C44-2015-10>
- Bates (T). MOOCs: Getting to know you better. *Distance Education*. 35, 2; 2014; 145-148.
- Beltrán Hernández de Galindo (M de J), Romero-Rodriguez (L M), and Ramirez Montoya (M S). Entrepreneurship competencies in energy sustainability MOOCs. *Journal of Entrepreneurship in Emerging Economies*. 11, 4; 2019; 598-616. <https://doi.org/10.1108/JEEE-03-2019-0034>
- Bordoloi (R), Das (P), and Das (K). Perception towards online/blended learning at the time of Covid-19 pandemic: An academic analytics in the Indian context. *Asian Association of Open Universities Journal*. 16, 1; 2021; 41-60. <https://doi.org/10.1108/AAOUJ-09-2020-0079>
- BOU (n.d.). About Bangladesh Open University. <https://www.bou.ac.bd/About/BOU>
- Brothers (P). MOOC learners in developing countries are vastly different than their developed world counterparts. 2017. Retrieved from <https://medium.com/navitas-ventures/mooc-learners-in-developing-countries-are-vastly-different-than-their-developed-world-counterparts-1d7eb156bd4c>
- Christensen (G), Alcorn (B), and Emanuel (E). MOOCs won't replace business schools – they'll diversify them. *Harvard Business Review*. 2014, June 3.
- Chuang (I) and Ho (A D). HarvardX and MITx: Four years of open online courses. 2016. <http://dx.doi.org/10.2139/ssrn.2889436>
- Clark (K R), Veal (B L), and Watts (L K). A review of the use of massive open online courses (MOOCs) in medical imaging education. *The Internet Journal of Allied Health Sciences and Practice*. 15, 2; 2017.
- Colman (D). MOOC interrupted: Top 10 reasons our readers didn't finish a massive open online course. *Open Culture*. 2013. Retrieved from [www.openculture.com/2013/04/10\\_reasons\\_you\\_didnt\\_complete\\_a\\_mooc.html](http://www.openculture.com/2013/04/10_reasons_you_didnt_complete_a_mooc.html)
- Dahleez (K A), El-Saleh (A A), Al Alawi (A M), and Abdelmunem Abdelfattah (F). Higher education student engagement in times of pandemic: The role of e-learning system usability and teacher behavior. *International Journal of Educational Management*. 35, 6; 2021; 1312-1329. <https://doi.org/10.1108/IJEM-04-2021-0120>
- Dalipi (F), Imran (A S), and Kastrati (Z). MOOCs dropout prediction using machine learning techniques: Review and research challenges. *IEEE Global Engineering Education Conference (EDUCON)*. 2018; 1007-1014. IEEE. <https://doi.org/10.1109/EDUCON.2018.8363340>
- Deshpande (A) and Chukhlomin (V). What makes a good MOOC: A field study of factors impacting student motivation to learn. *American Journal of Distance Education*. 31, 4; 2017; 275-293. <https://doi.org/10.1080/08923647.2017.1377513>
- Diver (P) and Martinez (I). MOOCs as a massive research laboratory: Opportunities and challenges. *Distance Education*. 36, 1; 2015; 5-25.
- El-Hmoudova (D). MOOCsmotivation and communication in the cyber learning environment. *Procedia-Social and Behavioral Sciences*. 131; 2014; 29-34. <https://doi.org/10.1016/j.sbspro.2014.04.074>
- Fasimpaur (K). Massive and open. *Learning and Leading with Technology*. 14; March/April 2013. [https://www.learningandleading-digital.com/learning\\_leading/20130304?](https://www.learningandleading-digital.com/learning_leading/20130304?)
- Gabel (M). MOOCs – Massive open online courses. EUA Occasional Papers. 2013.
- Garrison (D R) and Kanuka (H). Blended learning: Uncovering its transformative potential in higher education. *The Internet and Higher Education*. 7, 2; 2004; 95-105.
- Gupta (K P) Investigating the adoption of MOOCs in a developing country: Application of technology-user-environment framework and self-determination theory. *Interactive Technology and Smart Education*. 2019. <https://doi.org/10.1108/ITSE-06-2019-0033>
- Hakami (N A). An investigation of the motivational factors influencing learners' intentions to continue using Arabic MOOCs. 2018. Faculty of Physical Sciences and Engineering, School of Electronics and Computer Science, University of Southampton. (Published thesis).
- Höfler (E), Zimmermann (C), and Ebner (M). A case study on narrative structures in instructional MOOC designs. *Journal of Research in Innovative Teaching & Learning*. 10, 1; 2017; 48-62. <https://doi.org/10.1108/JRIT-09-2016-0005>
- Hone (K S) and El Said (G R). Exploring the factors affecting MOOC retention: A survey study. *Computers and Education*. 98; 2016; 157-168. <https://doi.org/10.1016/j.compedu.2016.03.016>
- Huang (H), Jew (L), and Qi, (D). Take a MOOC and then drop: A systematic review of MOOC engagement pattern and dropout

- factor. *Heliyon*. 9, 4; 2023; e15220. <https://doi.org/10.1016/j.heliyon.2023.e15220>
- Islam (M D). Bangladeshi platforms for online and distance learning. *Bangladesh Education Article*. 2019. <https://bdeduarticle.com/distance-learning/>
- Islam (M N). MOOC based teaching-learning initiatives in Bangladesh. *Library Philosophy and Practice (e-journal)*. 2021. <https://digitalcommons.unl.edu/libphilprac/6771>
- Jiang (Z), Miao (C), and Li (X). Application of keyword extraction on MOOC resources. *International Journal of Crowd Science*. 1, 1; 2017; 48-70. <https://doi.org/10.1108/IJCS-12-2016-0003>
- Jordan (K). Initial trends in enrollment and completion of Massive Open Online Courses. *The International Review of Research in Open and Distance Learning*. 15, 1; 2014; 133-160. <https://doi.org/10.19173/irrodl.v15i1.1651>
- Kearney (A), Harrington (D), and Rajwani (T). Group behaviour process and learning: A review and assessment of emerging online technologies in executive education. *European Journal of Training and Development, ahead-of-print*. 2021; 1-20. <https://doi.org/10.1108/EJTD-03-2021-0044>
- Kemp (S). Digital 2024: Bangladesh. DataReportal. 2024, February 9. <https://datareportal.com/reports/digital-2024-bangladesh?rq=Digital%202024%20bangladesh>
- Kennedy (J). Characteristics of massive open online courses (MOOCs): A research review, 2009-2012. *Journal of Interactive Online Learning*. 13, 1; 2014; 1-16.
- Kizilcec (R F), Pérez-Sanagustín (M), and Maldonado (J J). Self-regulated learning strategies predict learner behavior and goal attainment in massive open online courses. *Computers and Education*. 104; 2017; 18-33. <https://doi.org/10.1016/j.compedu.2016.10.001>
- Kop (R) and Carroll (F). Cloud computing and creativity: Learning on a massive open online course. *EURODL*. 2011; 1-11. Retrieved from <http://www.eurodl.org/?p=special&sp=articles&inum=2&article=457>
- Kumar (K). A study of veterinary scholars' perception of MOOCs. *Information and Learning Sciences*. 2019. <https://doi.org/10.1108/ILS-04-2019-0031>
- Lambert (S R). Do MOOCs contribute to student equity and social inclusion? A systematic review 2014-18. *Computers in Education*. 145; 2020; 103-693. <https://doi.org/10.1016/j.compedu.2019.103693>
- Liyanagunawardena (T R), Adams (A A), and Williams (S A). MOOCs: A systematic study of the published literature 2008-2012. *International Review of Research in Open and Distributed Learning*. 14; 2013; 202-227. <https://doi.org/10.19173/irrodl.v14i3.1455>
- McAuley (A), Stewart (B), Siemens (G), and Cormier (D). *The MOOC model for digital practice*. University of Prince Edward Island. 2010.
- Mourdi (Y), Sadgal (M), El Kabtane (H), and Fathi (W B). A machine learning-based methodology to predict learners' dropout, success or failure in MOOCs. *International Journal of Web Information Systems*. 15, 5; 2019; 489-509. <https://doi.org/10.1108/IJWIS-11-2018-0080>
- Murray (S). MOOCs struggle to lift rock-bottom completion rates. 2019. Retrieved from [www.ft.com/content/60e90be2-1a77-11e9-b191-175523b59d1d](http://www.ft.com/content/60e90be2-1a77-11e9-b191-175523b59d1d)
- Muzafarova (T) and Kaya (E). Survey of awareness of massive open online courses (MOOC) – A case of International Black Sea University students, Georgia. *Journal of Education*. 3, 2; 2014.
- Narayanasamy (S K) and Elçi (A). An effective prediction model for online course dropout rate. *International Journal of Distance Education Technology*. 18, 4; 2020; 110.
- Onah (D F), Sinclair (J), and Boyatt. Dropout rates of massive open online courses: Behavioural patterns MOOC dropout and completion: Existing evaluations. In *Proceedings of the 6th International Conference on Education and New Learning Technologies (EDULEARN14)*. 2014; 1-10. <https://doi.org/10.13140/RG.2.1.2402.0009>
- Pappano (L). The year of the MOOC. *The New York Times*. 2012, November 2. Retrieved from [www.nytimes.com/2012/11/04/education/edlife/massive-open-online-courses-are-multiplying-at-a-rapid-pace.html?\\_r=0](http://www.nytimes.com/2012/11/04/education/edlife/massive-open-online-courses-are-multiplying-at-a-rapid-pace.html?_r=0)
- Pujar (S M) and Tadasad (P G). MOOCs – an opportunity for international collaboration in LIS education: A developing country's perspective. *New Library World*. 117, 5/6; 2016; 360-373. <https://doi.org/10.1108/NLW-07-2015-0048>
- Raja (M A S) and Kallarakal (T K). COVID-19 and students' perception about MOOCs: A case of Indian higher educational institutions. *Interactive Technology and Smart Education*. 18, 3; 2021; 450-474. <https://doi.org/10.1108/ITSE-07-2020-0106>
- Rosendale (J). Gauging the value of MOOCs: An examination of American employers' perceptions toward higher education change. *Higher Education, Skills and Work-Based Learning*. 7, 2; 2017; <http://dx.doi.org/10.1108/HESWBL-09-2016-0065>
- Sarker (M F H), Mahmud (R A), Islam (M S), and Islam (M K). Use of e-learning at higher educational institutions in Bangladesh: Opportunities and challenges. *Journal of Applied Research in Higher Education*. 2019. <https://doi.org/10.1108/JARHE-06-2018-0099>
- Shaikh (S A). Student teacher awareness of MOOCs – Massive online open courses. *International Journal of Educational Science and Research (IJESR)*. 7, 6; 2017; 105-110.
- Sidani (Y M). LOGIC LEADS LEARNIng: MOOCs in the Middle East. In *The Disruptive Power of Online Education*. 2018; 27-42. <https://doi.org/10.1108/978-1-78754-325-620181003>
- Siemens (G). Massive open online courses: Innovation in education. *Open Educational Resources: Innovation, Research and Practice*. 5; 2013; 5-15.
- Smith (N), Caldwell (H), Richards (M), and Bandara (A). A comparison of MOOC development and delivery approach-

- es. *The International Journal of Information and Learning Technology*. 34, 2; 2017; 152-164. <https://doi.org/10.1108/IJILT-09-2016-0047>
- Stephens (M) and Jones (K M L). Emerging roles: Key insights from librarians in a massive open online course. *Journal of Library & Information Services in Distance Learning*. 9, 2; 2015; 133-147. Published with license by Taylor & Francis. <https://doi.org/10.1080/1533290X.2014.946353>
- Tella (A), Tsabedze (V), Ngoaketsi (J), and Enakrire (R T). Perceived usefulness, reputation, and tutors' advocate as predictors of MOOC utilization by distance learners: Implication on library services in distance learning in Eswatini. *Journal of Library & Information Services in Distance Learning*. 2020. <https://doi.org/10.1080/1533290X.2020.1828218>
- Tobin (L). 'I'm embracing uncertainty': teenagers on why they are not going to university. *The Guardian*. 2015, August 17. Retrieved from [www.theguardian.com/education/2015/aug/17/teenagers-not-going-to-university-fees-debt](http://www.theguardian.com/education/2015/aug/17/teenagers-not-going-to-university-fees-debt)
- Tsabedze (V) and Saulus (N). Efficiency of MOOCs in leveraging access and quality library and information science education in the era of COVID-19 in Eswatini. *Journal of Library & Information Services in Distance Learning*. 16, 1; 2022; 59-76. <https://doi.org/10.1080/1533290X.2022.2035477>
- Urrutia (M L), White (S), and White (S). MOOCs in higher education magazines: A content analysis of internal stakeholder perspectives. In S. Zvacek, M. T. Restivo, J. Uhomibhi, & M. Helfert (Eds.), *Computer Supported Education*. Springer International Publishing. 2015; 395-405.
- Van De Weghe (D) and Wautelet (Y). Using Facebook as a massive open online course environment: Supported functionalities and challenges. In *The Future of Innovation and Technology in Education: Policies and Practices for Teaching and Learning Excellence*. 2018; 155-170. <https://doi.org/10.1108/978-1-78756-555-520181012>
- Wong (B T). Factors leading to effective teaching of MOOCs. *Asian Association of Open Universities Journal*. 11, 1; 2016; 105-118. <https://doi.org/10.1108/AAOUJ-07-2016-0023>
- Wu (B) and Chen (X). Continuance intention to use MOOCs: Integrating the technology acceptance model (TAM) and task technology fit (TTF) model. *Computers in Human Behavior*. 67; 2017; 221-232. <https://doi.org/10.1016/j.chb.2016.10.028>
- Wulf (J), Blohm (I), Leimeister (J M), and Brenner (W). Massive open online courses. *Business and Information Systems Engineering*. 6, 2; 2014; 111-114.
- Yuan (L) and Powell (S). MOOCs and open education: Implications for higher education. University of Bolton. 2013. Retrieved from <http://publications.cetis.ac.uk/wp-content/uploads/2013/03/MOOCs-and-Open-Education.pdf>