

Massive Open Online Courses: Management of Facilities and Infrastructure of Arabic Learning in Digital Era

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ABSTRACT

Arabic learning still seems traditional and not updated. For this reason, it is necessary to adjust the times in this digital era to the demands and needs of students. This research was conducted to provide an overview of Arabic learning innovations in the digital era of Massive Open Online Courses (MOOC) and to analyze the management of facilities and infrastructure needed to support successful learning. Through a comprehensive research review, this research is intended to present the results of an analysis of the management of facilities and infrastructure in learning Arabic through MOOC in the current digital era. Data collection techniques are carried out by documentation studies or literature searches. The findings are presented systematically which are categorized into four things, namely 1) management of learning facilities and infrastructure, 2) trends in Arabic learning in the digital era, 3) MOOC in Arabic learning, and 4) management of facilities and infrastructure in language learning. Arabic via MOOC. This research contributes to providing concrete descriptions and answers to the demands of the times in the digital era in updating the implementation of Arabic learning.

Keywords: *MOOC, Facilities and Infrastructure Management, Arabic Learning*

ABSTRAK

Pembelajaran bahasa Arab masih terkesan tradisional dan kurang update. Untuk itu, perlu adanya penyesuaian zaman di era digital ini dengan tuntutan dan kebutuhan peserta didik. Penelitian ini dilakukan untuk memberikan gambaran mengenai inovasi pembelajaran bahasa Arab di era digital Massive Open Online Courses (MOOC) dan menganalisis manajemen sarana dan prasarana yang dibutuhkan untuk mendukung keberhasilan pembelajaran. Melalui penelitian komprehensif review, penelitian ini ditujukan untuk menyajikan hasil analisis tentang manajemen sarana dan prasarana dalam pembelajaran bahasa Arab melalui MOOC di era digital saat ini. Teknik pengumpulan data dilakukan dengan studi dokumentasi atau penelusuran literatur. Temuan-temuan tersebut disajikan secara sistematis yang dikategorikan menjadi empat hal, yaitu 1) manajemen sarana dan prasarana pembelajaran, 2) trend pembelajaran bahasa Arab di era digital, 3) MOOC dalam pembelajaran bahasa Arab, dan 4) manajemen sarana dan prasarana dalam pembelajaran bahasa Arab melalui

MOOC. Penelitian ini berkontribusi untuk memberikan gambaran konkret atas jawaban dari tuntutan zaman di era digital dalam mengupdate penyelenggaraan pembelajaran bahasa Arab.

Kata Kunci: MOOC, manajemen sarana dan prasarana, pembelajaran bahasa Arab

Introduction

Currently, there are social and technological developments along with changes in the field of education (Lassoued et al., 2020), where offline education is changing to online education. Online education with its various modes, has grown tremendously around the world due to the confluence of new technologies, the global adoption of the Internet, and the growing demand for a workforce that is regularly trained for the ever-evolving digital economy. Online education is on track to become mainstream by 2025. Country-level factors that affect the quantity and quality of online education include industry (business); government at the local level, state law; ICT capacity; diffusion of internet/mobile technologies; revenue and the digital divide (Palvia et al., 2018).

As information and communication technology advances, online education is becoming more technologically, economically, and operationally viable. Incentives for educational institutions offering online programs are financial conditions and rewards (e.g., reductions in infrastructure for classrooms, offices, cafeterias, dormitories, and libraries), increased nontraditional students working full-time, and technological advances that make them easy to implement. In the US context, Dziuban et al (2016) described the evolution of online education in four phases, namely in the 1990s (Internet-driven distance education), 2000–2007 (increased use of Learning Management Systems-LMS), in 2008–2012 (the growth of Massive Open Online Courses–MOOC), and so on with the growth of online higher education enrollments that surpass traditional higher education enrollment.

Unfortunately, this fact has not been responded well by most educational institutions, even though the failure of an agency can be caused by their ignorance in managing and developing disruptive technologies. In higher education, online courses or Massive Open Online Courses (MOOC) are called disruptive innovation technologies. There is also the term Small Private Online Course (SPOC) with a limited number of students managed by lecturers as facilitators. Some examples of MOOC that are familiar in the community include edX (edx.org), Udacity (udacity.com), Udemy (udemy.com), and Coursera

(coursera.org). Unlike Udacity, Udemy, and Coursera, edX offers its classes for free to its students (Christensen, 1997).

The emergence of MOOC, which used to be a substitute for classes, additional in the classroom, or combined in the form of hybrid/blended learning (Garrison & Kanuka, 2004), is now the core of the classroom, including Arabic learning. This is one of the reasons why MOOC is needed. In addition, MOOC can also be said to be the answer to the demands of an all-digital age (Adham & Lundqvist, 2015). Moreover, there is a covid-19 outbreak that stops face-to-face learning and switches to online learning. Although MOOC has actually been introduced by Dave Cormier from the University of Prince Edward Island in Canada since 2008 (Kaplan & Haenlein, 2016), its prestige is now increasingly looming with the implementation of online learning during the pandemic in all educational institutions.

The presence and need for MOOC are inevitable. MOOC not only teach cognitive aspects but also affective and psychomotor. MOOC is a platform for communication and collaboration where participants can exchange information to improve knowledge (de Waard et al., 2014) and develop attitudes and skills of self-study (Albelbisi & Yusop, 2019). Various studies mention that many MOOC have been designed to encourage learners to organize their own learning rather than relying on instructor guidance. MOOC learners can also independently select learning resources and choose to participate in activities (Davis et al., 2016).

Previous research has also proven that MOOC learners with high levels of self-learning show different cognitive, affective, and behavioral reactions to learning in MOOC than those who show lower levels of self-learning (Hood et al., 2015; Littlejohn & Milligan, 2015). Through such research, it is clear that MOOC success requires a high level of self-study skills (Onah & Sinclair, 2017). In addition, there is also a growing body of evidence that MOOC have significant potential to support students' independent learning (Littlejohn., 2016). Since MOOC learners must be independent and active participants in the learning process, those with higher self-study skills show more ability to engage in learning by setting learning objectives individually, identifying effective learning techniques, and monitoring the process of achieving their goals (Kizilcec et al., 2016).

In order to face and adapt to the rise of MOOC, Arabic learning requires an analysis of adequate management of facilities and infrastructure to support the successful

implementation of learning activities. For this reason, through a comprehensive review, this paper seeks to provide knowledge innovation through studies that describe thoroughly about MOOC in Arabic learning and the management of facilities and infrastructure.

Research Method

This study uses Creswell's (1998) review guidelines to highlight an unsolved problem, namely about the management of facilities and infrastructure needed to support the success of Arabic learning in the digital era of Massive Open Online Courses (MOOC). Qualitative methodology was used in this study because the writer searched for and identified the most relevant papers to review, namely regarding MOOC issues and challenges. One of the techniques used in this qualitative method is to identify related papers searched from databases or search engines and select only the relevant ones. This is an important step because there are too many papers and articles related to MOOC and it is challenging to identify what problems to face through related papers. However, there are some relevant research papers that have been found through the search. The relevance of the research papers was determined by examining the papers' primary focus, whether they identified on MOOC issues; pedagogical, technological implementation and challenges in the digital age. The sources of the search can be categorized into two, namely from journals that are specialized in education and from research publishers databases.

A search of the literature was conducted between 8-30 April 2022 to identify peer-reviewed articles in English. In addition, the writer also studied a number of English and Indonesian papers for a better understanding of current trends and directions within the field of MOOC studies. High-quality book chapters are also part of the accepted literature. Literature searches were conducted in a number of selected educational journals such as the International Journal of Web-Based Learning and Teaching Technology and the Journal of Interactive Online Learning and International Education Review. At the same time, the writer expanded the scope of the study by searching from academic and bibliographical databases such as the Wiley Online library, SpringerLink, Elsevier's ScienceDirect and IEEE Explore. The keywords are Facilities and infrastructure Management, Arabic learning, and MOOC. The overall amount of literature used for analysis are 40 scientific articles.

Other literature used for this research is also from conference proceedings. Inclusion criteria require that the research be published in English and contain certain keywords as titles. These keywords including MOOC and Arabic learning. Using these search criteria, various related and unrelated literature was found that were systematically filtered based on inclusion criteria. In the end, several works were found that were related and relevant to the research. For the purpose of analysis, abstracts and key findings from the study were extracted and analyzed systematically based on Glaser's constant-comparative qualitative data analysis method (1965), which previously used by Hew & Cheung (2014); Liyanagunawardena et al., (2013); and Williams et al., (2013).

There are four stages in constant-comparative qualitative data analysis techniques, namely 1) comparing events that can be applied in each category, 2) combining categories and their characteristics, 3) limiting the scope of the theory, and 4) writing down the theory. After that, the data can be used to get the right conclusions so that it can be used to answer problems posed in research (Bungin, 2010).

Results and Discussion

From the results of the literature search, the presentation of data in this study is categorized into four things, namely the management of learning facilities and infrastructure, the trend of Arabic learning in the digital era, MOOC in Arabic learning, and the management of facilities and infrastructure in Arabic learning through MOOC. The explanation is as below:

1. Management of Arabic Learning Facilities and Infrastructure

One of the important aspects in the successful implementation of good learning is the existence of adequate facilities and infrastructure (Badrudin, 2017). Facilities and infrastructure management emphasizes the utilization and management of learning infrastructure which includes the process of planning, procurement, distribution, inventory, maintenance, storage, and elimination (Matin & Fuad, 2019). National Education Standards on learning facilities and infrastructure have been regulated in government Regulation (PP) No. 19 of 2005 chapter VII article 42, which explains that: (1) Each education unit is required to have facilities that include furniture, educational equipment, educational media, books and other learning resources, consumables, and

other equipment needed to support an orderly and continuous learning process, (2) Each education unit must have infrastructure that includes land, classrooms, education unit leadership rooms, educator rooms, administrative rooms, library rooms, laboratory rooms, workshop rooms, production unit rooms, canteen rooms, power and service installations, sports venues, places of worship, playgrounds, creative places, and other spaces / places needed to support an orderly and sustainable learning process (Tamaji, 2021).

The results of the research study revealed that the majority of educators in general have carried out the Arabic learning process using Information and Communication Technology (ICT). The learning facilities include laptops, pendrives, LCD projectors, various Arabic learning software, applications, digital platforms, and internet wifi services. In addition, language learning is also supported by infrastructure such as language laboratories, libraries, classrooms, and a comfortable learning environment. Through facilities and infrastructure that are well managed by educators who are skilled in functioning IT-based facilities and laboratory personnel who are skilled in managing language laboratory infrastructure, effective Arabic learning can be realized (Badrudin, 2017; Thooyibah & Firdaus, 2021).

The implementation of effective Arabic language learning is the goal of the management of facilities and infrastructure. According to Nurbaiti (2015) facilities and infrastructure management has the aim of providing services professionally in realizing the implementation of learning that is not only effective, but also efficient. In addition, another goal is to procure learning facilities and infrastructure through a planning system based on appropriate needs analysis and in accordance with the available fund budget. Another thing that needs to be considered is the maintenance of these facilities and infrastructure so that it can ensure that it is always in good condition when used (Nurbaiti, 2015).

2. Arabic Learning Trends in the Digital Era

The challenge in implementing Arabic learning that must be faced in meeting the demands of the digital era is to follow the emerging trends. This can be proven by the existence of various research results that show the development of online learning,

including Arabic, through various media and platforms, such as Whatshapp, YouTube, Instagram, and others (El-Sayad et al., 2021).

Research on Arabic learning in the digital era written by Dariyadi (2019) showed that there are web addresses that can be accessed via the internet for Arabic learning, such as <http://www.areeg.org>, http://www.schoolarabia.net/asasia/duroos_1_2/arabi_main.htm, <http://www.alef-bata.com/>, <http://www.madinaharabic.com/>, dan arabiyatuna.com. In addition, other supporting media can be interactive CDs, parabolic TVs that can access Arabic TV broadcasts, Arabic E-learning (Al-Zou'bi & Al-Rousan, 2018), and video creation through KineMaster.

The next research is related to Digital-based Arabic Learning Media 4.0 (Kahoot and Socrative). In this study, it was explained that Kahoot (<https://kahoot.it>) is an online learning media used to evaluate the results of learning activities through several features such as games, quizzes, discussions, and surveys. Game features from Kahoot can be used to test learning outcomes with a predetermined duration of time and the answers are accompanied by images and colors. Similar to Kahoot, Socrative (<https://socrative.com>) has quiz features, Space Race, Quick Question, and Exit Ticket. Socrative is a social media with a student response system that allows educators to create interactive quizzes or games that involve students directly (Lisaniyah & Salamah, 2020).

Another trend that shows innovation about the Use of Vlogs as a Learning Medium in Improving *Maharah Kalam* has been researched by Muthmainnah & Annas (2020). In this study, it was explained that Vlog or Video Blogging can increase the activeness and creativity of students in developing their abilities in communicating in Arabic. Vlogs are a means for people to express themselves and their opinions to the public (David, 2017) using a camera phone, a digital camera that can record video, or a camera equipped with a microphone.

In addition, there is also research on The Analysis of the Use of WhatsApp as an Arabic Learning Media in the Industrial Era 4.0. This media is considered to be able to provide practical convenience in the delivery of Arabic learning materials both individually and in groups. The convenience can be seen from the use of this media which

is currently reachable by everyone. In addition to being used to send messages in writing, through WhatsApp, people can also send voice messages, pictures, telephones, and make video calls (Mustofa, 2020).

In addition to WhatsApp, Instagram and Facebook are also social media used as alternative media in learning Arabic. According to research by Audina & Muassomah (2020), Instagram is a social media that is very suitable in supporting students to express ideas in writing form so as to form creative and interesting writing habits. Instagram is considered effective in delivering material because it is supported by attractive features. The use of Instagram in *maharah kitabah* learning is also unlimited in time and place, easily accessible, and has very interesting features that can motivate students to be active, creative and innovative when working on assignments.

In the research conducted by Linur & Mubarak (2020), Facebook can also be used as an alternative medium in the development of *maharah kitabah*. The status column feature can be used by users to express their ideas and opinions using Arabic writing. As a result, this can foster users' confidence to speak Arabic actively. The comment feature available in each Facebook status can also be used for other users to provide responses in the form of questions, evaluations, and praise. On the other hand, some Arabic study groups available on Facebook are able to have a positive impact in the development of other *maharachs* such as *maharah istima'*, *maharah kalam*, and *maharah qira'ah*.

In addition to research on several applications and social media as mentioned above, there is also interesting research that discusses the TikTok Application as a New Arabic Learning Medium in the Digital Age. The presentation of videos on TikTok that is relatively short, contemporary and equipped with music, stickers, and other features is considered to be a popular medium by the younger generation. An example of a TikTok account featuring material about Arabic learning is @alramsainstitutue. This account presents material that is easy to understand and arouse the enthusiasm of the audience so that it gains many followers and likes (Ramadhan, 2020).

In addition to the previously mentioned studies, there is also other study that raised the topic of using YouTube Media as a Solution for Arabic Language Learning Media, especially during the pandemic. Youtube is used as an alternative learning media

and also as an effort to improve the quality of teaching for educators during the pandemic. Educators as learning resources are the most important aspect in the delivery of material so they must have many ways to achieve good quality learning. Through YouTube, educators can be helped in providing interesting learning stimuli through learning videos related to 4 language skills, thereby increasing the enthusiasm and motivation of students when learning from home in the midst of an anxious situation during a pandemic (Rahmasari, 2020).

MOOC in Arabic Learning

MOOCs are a worldwide new phenomenon that attracts participants to register and take them in hundreds of thousands per course in certain cases, as well as gaining public acceptance. Many MOOCs today are organized by higher education institutions in the US, with the breakthrough of the first MOOC titled "Artificial Intelligence" which was very popular at Stanford University in California (USA) in the summer of 2011. Applicants on the "Artificial Intelligence" course numbered 160,000 students, then only 23,000 graduated after 10 weeks (Nhamo, 2013). MOOCs are generally free of charge, there are no prerequisites other than Internet access and quota, no predetermined expectations for those who participate, and there are no formal requirements for accreditation (Silvana & Fajar, 2017; Moura et al., 2018; McAuley et al., 2010). *How are MOOCs in Arabic learning?*

From various sources on social media (Whatshapp, Facebook, and Instagram), the writer found various forms of Arabic learning MOOCs organized in a non-formal manner, such as courses for success in achieving high TOAFL scores, courses in fluent reading of the yellow book (*Kitab Kuning*), courses in proficient in communicating Arabic, and courses for mastering the knowledge of *Nahwu-Sharaf*.

For example, from Instagram, three forms of courses were found, namely:

No.	Course Name	Link Address
1.	Al-Azhar	https://instagram.com/kursus_arab_alazhar?igshid=YmMyMTA2M2Y=
2.	Hayfa	https://instagram.com/quantum_maba?igshid=YmMyM

		<u>TA2M2Y=</u>
3.	Quantum	<u>https://instagram.com/hayfa.academy?igshid=YmMyMTA2M2Y=</u>

In addition, many forms of courses can also be obtained on Facebook by writing the keyword "Arabic course" or "learn Arabic". In its implementation, this online course requires a massive launch in terms of: firstly, the MOOC learning management system and secondly, the massive dissemination of content, knowledge and corresponding skills (Nhamo, 2013). The organizers are doing ways so that the courses they organize can attract the interest of many people.

Management of Facilities and Infrastructure in Arabic Learning through MOOC

The globalization of online education can only occur if there are standard technology platforms (such as the internet) that bridge the digital divide and accommodate diverse languages and cultures, standardized curricula, and evaluation processes. This is influenced by several factors, one of which is cooperation between the state level including industry (business) and government at the local level. The industrial sectors and government determine the employability of graduates from online programs. In addition, local governments make regulations related to all educational programs, and create initiatives including online education. Other factors that also support the globalization of online education are from countries or governments which include legislation, Information and Communication Technology (ICT) capacity, diffusion of Internet/mobile technology, income inequality, and the digital divide. In addition, there are also institutional factors including support from administration, marketing, technology, and top management; institutional culture (entrepreneurship, hierarchy, etc.), selective institutions versus non-selective, public versus private institutions, institutions running for profit versus not for profit (Palvia et al., 2018).

Curriculum/program factors include level of education (freshman, second-year student, junior, senior, graduate), part-time or full-time, normal or executive program, and also the mode of online education (blended, flipped, full online, also synchronous/asynchronous). At the micro level, student factors include motivation, culture, learning styles, and IT skill levels; teaching factors include (but are not limited to)

roles (moving from "sage on the stage" to "cyber guide on side"), as well as teaching modes (cognitive, affective, managerial) and IT skill levels; course factors include discipline, learning outcomes that may use Bloom's well-known taxonomy; and technological factors include the platform (type of LMS) used, the perceived benefits, and the perceived ease of use (Palvia et al., 2018).

For example, in the results of research on MOOCs: A Success of Cloud Computing in Education which shows that Infrastructure as a Service (IaaS) and Software as a Service (SaaS) as the main cloud service models used in education. In addition, Coursera, edX, Udemy, Udacity, and FutureLearn are the major MOOC providers that use cloud services and resources to promote qualitative teaching and learning globally. In the end, the study outlines the characteristics, types, problems, and prospects of MOOCs for the delivery of education (Mustapha et al., 2016). This computational paradigm supports the emergence of new learning and teaching platforms called MOOCs. MOOCs are primarily delivered through the cloud and use the internet to make education infinitely available for an unlimited scope of participants (Mustapha et al., 2016; Sallam, 2017).

MOOC are course designs for remote learners. The platform provided by Open Learning is a course that can be accessed anywhere because learners are connected with all the necessary equipment and of course internet speed is a major concern. The growth of the Internet and all sorts of devices such as computers, notebooks, and tabs has made learning more effective and enjoyable for everyone. Thus, MOOCs are becoming a popular e-learning method because they can provide course materials that are accessible to everyone, not only for remote learners, but most educational institutions have also benefited from this platform (Haron et al., 2019).

The implementation of joint MOOCs between agencies allows for collaboration between educators and students. The learning process can involve many educators from multidisciplinary sciences spread across various educational institutions, so that it can have a very large impact in strengthening the study of scientific insights and experiences for students. Discussions in this collaborative learning become more meaningful. Arabic learning becomes student centered (Umam & Nada, 2021) when students get experience from other learners, even not only students, but educators can also learn a lot from their students. This program is also supported by the existence of open certified which

provides access to professional certification programs for participants through professional certification bodies. Therefore, it is very possible to carry out Arabic language learning equipped with facilities and infrastructure that are managed optimally within a good management framework, such as in terms of lecture buildings, educational budgets, curriculum standards, teachers, teaching materials, technology-based learning strategies, and e-learning systems (Sumarsono, 2021).

Conclusion

From the results of the discussion above, it can be concluded that the implementation of MOOC in Arabic learning requires good management of facilities and infrastructure. Comprehensively, this study includes four discussions, namely about 1) management of learning facilities and infrastructure, 2) trends in Arabic learning in the digital era, 3) MOOC in Arabic learning, and 4) management of facilities and infrastructure in Arabic learning through MOOC. MOOCs as a platform provided by Open Learning are courses that open anywhere because learners are connected with all the necessary equipment and of course internet speed is a major concern. MOOCs are generally free of charge, there are no prerequisites other than Internet access and quotas, no predetermined expectations for participation, and no formal requirements for accreditation. MOOCs are becoming a popular e-learning method because they can provide course materials that are accessible to everyone, not only for distance learners, but most educational institutions have also benefited from this platform, especially in Arabic learning.

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