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Effectiveness of using massive open online courses (MOOC) in learning Arabic during the COVID-19 pandemic in tertiary institution

Introduction. The COVID-19 pandemic that gripped the world has made significant changes in the professional activities of school teachers and university professors. In the new online format, previously developed lesson plans did not yield the expected results. Arabic language teachers found it especially difficult to present the new grammatical material to the students. In addition to general didactic issues, there are particular problems that have arisen. Teaching Arabic as a foreign language in the first year has several unique characteristics. Students begin learning a completely new oriental language from scratch. In addition, the grammatical system of Arabic differs significantly from the European languages that are known and studied at school and therefore students cannot rely on their previous knowledge of Arabic grammar.

Aim. This article aims to study the effectiveness of learning Arabic using the Massive Open Online Course (MOOC) media, as a modern and adaptive learning innovation during a pandemic COVID-19 and challenging times, with an independent learning curriculum approach. The application of MOOC in learning Arabic is expected to help institutions, lecturers, and students improve their abilities based on their different learning experiences. This study analyzes students’ perceptions of learning Arabic with MOOC media and analyzes the effectiveness of using MOOC media in learning Arabic in tertiary institutions.

Method. The research was conducted using an experimental approach with a single-group pretest-posttest design. The research was conducted at the Intensive Arabic Lecture at Malang city Indonesia. Respondents in this study were 87 semester II students taking Arabic Language III courses at tertiary institutions.

Results. The results of this study indicate that 78% of students like using MOOC media in learning Arabic. Analysis of student achievement results also shows an increase. The t-test on the results of students’ pretest and posttest scores showed a significant level of 0.031<0.05, so using MOOC media in learning Arabic improves student achievement.

Practical significance. From the results of this study, it is recommended that tertiary institutions may utilize MOOC media in learning Arabic, especially in uncertain situations such as pandemics and challenging times.

Keywords: MOOC, online learning, Arabic language, pandemic COVID-19, higher education

For Reference:
Introduction

When the COVID-19 pandemic hit the world, all aspects of human life were affected, including education [1]. The impact of the pandemic on educational institutions was mixed. Some institutions close all educational services and rest all students at home without learning. Some institutions organize education by giving assignments to students, which are collected weekly. Some continue to provide education with an online system, using social media to implement learning so that the teaching and learning process runs well. It is this third path that most modern educational institutions have taken, which has adapted to developments in science and technology so that difficult circumstances such as the COVID-19 pandemic are not an obstacle to carrying out the teaching-learning process on campus [2].

The development of the industrial revolution 4.0, or the Cyber-Physical Era, requires humans to implement the internet of things [3]. By holding only one remote, humans can control everything with their hands and everything can be controlled with just that one remote [4]. This phenomenon has a positive impact on the education system so that they make adjustments to the pace of development that is occurring. Various innovations are present to change our education system, so education is required to present technology and information in its services; likewise, the world of education in Indonesia was directly affected by the development of this era. It can be seen in the many strategies and efforts that many educational institutions in Indonesia have made to improve the quality of education [5].

Improving the quality of education is the main focus of Indonesian government at this time [6]. One form of education effort that has been carried out is the development of learning media. Learning or educational media can help students increase their knowledge, skills, and attitudes. This learning media includes people, materials, equipment, or activities. Learning media is believed to arouse students' interest and motivation [7]. In the 4.0 era, everything must be flexible, including the teaching press and media [8].

Along with the development of the times, learning that previously had to come to school and take part in knowledge according to the schedule set by the teacher is now starting to be dynamic for students. Learning at this time can be done anywhere and anytime by utilizing online or in-network learning [9]. Many researches revealed that the quality obtained between face-to-face learning and in the network can be similar [10].

Online learning methods provide a broad space for students in tertiary institutions [11]. They can independently determine the desired topic or theme following learning outcomes. Besides, the dynamics of learning methods are also needed for students [12]. Moreover, it has been stated in Permendikbud No. 3 of 2020, regarding the independent curriculum, that students have the right to receive learning outside the study program for three semesters. To apply this curriculum, students need to upgrade themselves by adding insight and skills from experience outside the provisions of the study program [13].

Among the learning media that can provide facilities that accommodate these opportunities are Massive Open Online Courses (MOOC), online courses organized by various parties, both companies and educational institutions, that are offered openly [14]. Multiple disciplines can support online activities by utilizing MOOCs. Today, Massive Open Online Courses (MOOC) have become a growing platform and can be used in online-based
learning. This system is considered a new revolution in the field of education which can connect various circles in a continuous course. Only by utilizing the internet network have people received good material from early to tertiary education. The purpose of this MOOC system is to facilitate the learning process, which is based on the internet and online. By utilizing digital media in the form of photos, videos, and other materials the organizer shares, learning objectives can be conveyed to users properly [15].

Based on the results of several previous studies, education and training using the MOOC system can stimulate students' creative and critical thinking to function conductively and effectively [16]. Users can visualize content well and form clever analogies and metaphors, especially in today's generation, who are already familiar with digital media. Other research shows that the learning model with the MOOC system accessed online can facilitate their knowledge needs [17] and increase student satisfaction affected by the quality of the course, its entertainment value and its usefulness [18]. But unfortunately, research on the use of MOOCs for learning Arabic and the effectiveness of MOOCs in improving student achievement in Arabic language learning is still rare. Therefore, this study seeks to close this gap to see how effective the use of MOOC is for learning Arabic in universities. Thus, the problem raised in this paper is how effective MOOC media use is in learning Arabic in higher education.

**Literature Review**

**The Role of MOOC Media for Education**

MOOC-based learning began in 2008 with the brilliant idea of Dave Cormier and Bryan Alexander. The two men are academics from the University of Prince Edward Island, Canada. They collaborate with Stephen Downes and George Siemens as one of the driving forces of open educational resources [19]. This step was taken to form an online-based course that can facilitate users from various circles without being limited by space and time.

Among the advantages of MOOC in learning systems is its extensive reach. With MOOC, a lecture can be accessed by users from a massive distance. The MOOC method can be used online with many participants anywhere and anytime [20]. With MOOC, students can communicate and share learning experiences to improve self-learning competencies. The MOOC teaching method can be class-based and non-class, with communication techniques between instructors and students built through an online management system [21].

The Massive Open Online Course (MOOC) comprises four words with their own meanings. The first is Massive, which means infinite scalability, which means that as long as the capacity of the server device is still able to accommodate all the data and has a good algorithm, then regardless of the number of participants, they can still join, because MOOC does not limit the number of participants [22]. Second, openness in its membership while considering the code of ethics and norms. Several sites usually provide various facilities and programs. Some are paid or free. Several educational and non-educational institutions have developed the MOOC platform by inviting as many participants as possible to spread new knowledge and experiences to the broader community [23]. Third, Online, meaning that online-based MOOCs can be accessed remotely, but MOOCs also provide facilities to support face-to-face learning, all materials, reading materials, assignments, practice, exam questions, and others, all of which are uploaded to the MOOC system. Material is presented synchronously and asynchronously so that users can meet directly with tutors and submit questions to
tutors directly or indirectly based on an agreement with each tutor [9]. Fourth Courses, meaning that MOOC has a complete form for a course by controlling class arrangements, the material presented, reading materials, practicum, assignments, implementation of exams, and assessments. The main objective of this course is to increase the engagement of course participants to make it easier for teachers to monitor the progress of students' learning process while attending online classes [21].

There are two models of communication approaches in MOOC, namely cMOOC and xMOOC [24]. cMOOC is a course method with a connectivism approach to link student communication. Meanwhile, xMOOC uses a more structured behaviorism approach. cMOOC learning is based on interaction and communication between MOOC media users. Learners are encouraged to pursue assignments in online classes independently and self-manage their participation [25].

Meanwhile, xMOOC has a more structured system through video lectures, regular assessments, automated graded quizzes, peer or independent assessments, and online. With this system, students are expected to be able to emphasize individual learning. Among the parties that usually offer xMOOC plans are universities because xMOOC is more centralized [26].

cMOOC learning can use media such as weblogs to create a forum for group discussion by carrying out a specific theme. cMOOC carries a connectivist pedagogical technique that assumes all participants are considered learners. cMOOC learning activities begin with the delivery of discussion materials which are then listened to and corrected by platform users. The cMOOC instructional design approach seeks to collaborate between users to solve a problem or project to build shared knowledge among learners [27].

**Utilization of MOOC in Arabic Language Courses**

The development of the Industrial Revolution, from the 1st to the 4th present, has had a beneficial impact and made it easier for humans as social beings to relate and communicate with one another, one of which is through the use of the internet [28]. The internet makes it easy to obtain the desired information independently while adhering to the principles of manners and code of ethics. The industrial revolution also indirectly impacted changes in human life, including education, namely the shift from conventional learning to online-based modern learning by utilizing internet services. There is a shift in the learning paradigm from traditional to contemporary or offline to online learning. The use of information technology in learning Arabic can be assumed to improve the quality of education carried out through the teaching and learning process in and outside the classroom [29].

The use of online media such as MOOC does have various consequences, such as changes in behavior [30]. Therefore, it is necessary to cultivate a mindset that focuses more on the positive things that can be obtained from MOOC-based online media. Such as easy access to learning resources can increase students' competence [31].

During the COVID 19 pandemic, MOOCs had significant benefits for the world of education. At a time when the recommendation to maintain health protocols was promoted intensively, and keeping distance was required, education was no longer carried out face to face. As a result, MOOC media became a solutive step for the world of education. As part of e-learning, MOOC aims to spread benefits to the broader community, both scattered throughout the world, in villages and cities, in obtaining equal rights to learning opportunities [32]. Learning using the MOOC method is online or network-based learning. This method can reach remote users without face-to-face meetings and can be done anytime and anywhere.
Apart from the convenience, MOOCs can also cause problems, such as teaching that is less focused. It can be handled by preparing learning tools before online teaching. Teachers must prepare a course design that provides broad guidelines for learning activities while still paying attention to the principles of education to produce good quality output that can be achieved effectively and efficiently [33].

The existence of a course design in the MOOC program that is suitable for students has an important role in improving the quality of learning, especially regarding learning Arabic. From the explanation above, in this study, a research hypothesis was compiled as follows:

1. Students positively perceive the implementation of learning Arabic with MOOC.
2. There is a significant difference in students' perceptions between learning conventional Arabic and using MOOCs.

Research Methods

This study used a quantitative approach with a survey method for students who took online Arabic lectures during the 2020-2021 pandemic at the Arabic Lecture Program at an Islamic College in Malang city. This study involved 235 students, 125 women and 110 men in their second semester. To gather quantitative data, the researchers distributed questionnaires to students participating in intensive Arabic language lectures at several institutions providing lectures with MOOC. The questionnaire consisted of two elements: students' perceptions of MOOC as an Arabic language lecture medium and their perceptions of MOOC and conventional lecture methods. The collected data were then analyzed using the SPSS version 25 program.

Quantitative data analysis was carried out in several stages; first, the researcher conducted descriptive research. At this stage, the researcher asked in a questionnaire students' perceptions of using MOOC as a medium for learning Arabic online or online. The question consists of several elements as follows:

<table>
<thead>
<tr>
<th>Score</th>
<th>Criteria</th>
<th>Decession</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.6 – 5.0</td>
<td>Very Good</td>
<td>MOOC is very suitable to be used as a supporting medium for learning Arabic online.</td>
</tr>
<tr>
<td>4.1 – 4.5</td>
<td>Good</td>
<td>MOOC is suitable for use as a supporting medium for learning Arabic online.</td>
</tr>
<tr>
<td>3.6 - 4.0</td>
<td>Medium</td>
<td>MOOC can be used as a media to support online Arabic learning with additional supporting features</td>
</tr>
<tr>
<td>3.0 – 3.0</td>
<td>Low</td>
<td>MOOC needs to be revised to be used as an online Arabic learning media.</td>
</tr>
<tr>
<td>1.0 - 2.9</td>
<td>Very low</td>
<td>MOOC failed to be used as a media to support online Arabic learning.</td>
</tr>
</tbody>
</table>

Second, the researcher analyzed the questionnaire data using percentage analysis; namely, the student questionnaire answers would be interpreted by percentage to determine the percentage of each point generated. The highest rate represents students' general perception of the MOOC application in online Arabic learning.

Third, researchers will analyze student perceptions about learning Arabic online with MOOC and conventional or offline with one-way ANOVA. To see the level of differences in their perceptions of lectures with MOOC and traditional, the researchers conducted a t-test with one-way ANOVA to see whether the differences were significant.
This research was conducted on students taking Arabic courses in the Malang Arabic lecture program during the 2020-2021 pandemic. Usually, the Arabic lecture program at this institution is carried out offline, but due to the COVID-19 pandemic, this institution has changed its lecture system online by using MOOC. Some lecturers use the Zoom program, and some use Google meet. However, researchers submitted a questionnaire on the use of MOOC in general to see students' perceptions of the effectiveness of implementing MOOC in learning Arabic.

The first hypothesis to be tested in this study is students' perceptions of MOOC as a supporting medium for online Arabic learning activities. The research results are shown in the table as follows:

### Table 2

<table>
<thead>
<tr>
<th>No</th>
<th>Indicator</th>
<th>Mean</th>
<th>Level</th>
<th>N%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>MOOC Technical quality as media for online Arabic learning</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Background</td>
<td>4.28</td>
<td>Good</td>
<td>87%</td>
</tr>
<tr>
<td>2.</td>
<td>Design</td>
<td>4.12</td>
<td>Good</td>
<td>93%</td>
</tr>
<tr>
<td>3.</td>
<td>Clearance</td>
<td>4.24</td>
<td>Good</td>
<td>92%</td>
</tr>
<tr>
<td>4.</td>
<td>Display</td>
<td>4.61</td>
<td>Very Good</td>
<td>86%</td>
</tr>
<tr>
<td>2.</td>
<td>MOOC Effectiveness as media for online Arabic learning</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Easy setup of learning Arabic materials</td>
<td>4.15</td>
<td>Good</td>
<td>88%</td>
</tr>
<tr>
<td>2.</td>
<td>Ease consultation</td>
<td>4.21</td>
<td>Good</td>
<td>87%</td>
</tr>
<tr>
<td>3.</td>
<td>Time efficiency of learning Arabic</td>
<td>4.22</td>
<td>Good</td>
<td>92%</td>
</tr>
<tr>
<td>4.</td>
<td>Efficiency of learning Arabic</td>
<td>4.26</td>
<td>Good</td>
<td>86%</td>
</tr>
<tr>
<td>3.</td>
<td>MOOC usage for supporting online Arabic learning</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>MOOC provide creative idea to make innovation in online Arabic learning</td>
<td>3.83</td>
<td>Medium</td>
<td>85%</td>
</tr>
<tr>
<td>2.</td>
<td>MOOC support teachers and student to be creative in teaching and learning Arabic language.</td>
<td>4.45</td>
<td>Good</td>
<td>87%</td>
</tr>
<tr>
<td>3.</td>
<td>MOOC supports teachers and student to collaborate in learning Arabic language.</td>
<td>4.33</td>
<td>Good</td>
<td>93%</td>
</tr>
</tbody>
</table>

The first category in the table above describes students' perceptions of the MOOC application in online Arabic learning. In this case, students were asked to assess their technical perception of the MOOC appearance, which consisted of four elements: background, design, clearance, and display. The data shows that the mean value of each criterion is between 4.12-4.61, which is in the requirements of good. Only on the display element is the student considered to have outstanding standards. The number of students who rated this criterion ranged between 86%-93% of students.

In the second category, the researcher wanted to know students' perceptions of the effectiveness of MOOC as an online Arabic learning medium. Four criteria are used in the assessment: Easy setup of learning Arabic materials, Ease of consultation, the Time efficiency of learning Arabic, and Efficiency of learning Arabic. Student perceptions of this
aspect are in the mean range between 4.15-4.26, all of which fall into the excellent category. In comparison, the percentage of voters is 85%-92% of students in the field.

In the third category, students were asked about their perceptions of MOOC usage supporting online Arabic learning. There are three criteria requested in this category. Namely, MOOC provides creative ideas to make innovation in online Arabic learning, MOOC helps teachers and students to be creative in teaching and learning the Arabic language, MOOC supports teachers and students to collaborate in learning the Arabic language. Student responses to this question were at the mean between 3.83-4.45, which is in the medium to good criteria. In contrast, the number of voters in this category is around 85%-93% of students.

The following discussion is to answer the second hypothesis regarding student perceptions of learning Arabic online with MOOC and conventional with offline systems. From the results of the questionnaire distributed, the following data were obtained:

<table>
<thead>
<tr>
<th>No</th>
<th>Categories</th>
<th>Offline learning</th>
<th>Online learning Using MOOC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Material Presentation</td>
<td>3.6</td>
<td>3.3</td>
</tr>
<tr>
<td>2</td>
<td>Method</td>
<td>3.7</td>
<td>3.4</td>
</tr>
<tr>
<td>3</td>
<td>Instructional Media</td>
<td>3.2</td>
<td>4.5</td>
</tr>
<tr>
<td>4</td>
<td>Communication</td>
<td>4.3</td>
<td>4.4</td>
</tr>
<tr>
<td>5</td>
<td>Learning Resources</td>
<td>3.1</td>
<td>4.6</td>
</tr>
<tr>
<td>6</td>
<td>Ease of learning</td>
<td>3.4</td>
<td>4.3</td>
</tr>
<tr>
<td>9</td>
<td>Retention of material</td>
<td>4.5</td>
<td>3.8</td>
</tr>
<tr>
<td>10</td>
<td>Learning evaluation</td>
<td>3.7</td>
<td>4.6</td>
</tr>
<tr>
<td></td>
<td><strong>Total Mean</strong></td>
<td><strong>3.68</strong></td>
<td><strong>4.11</strong></td>
</tr>
</tbody>
</table>

For more details, a comparison of student perceptions of learning Arabic offline and online with MOOC can be seen in the following table:

![Picture 1](image_url)  
**Picture 1** Compare mean analysis of student perception on offline and online Arabic course using MOOC
Students’ perceptions of offline and online Arabic learning using MOOCs are generally very diverse. Regarding material presentation, ease of understanding, and method, students perceive learning Arabic offline to be higher than online using MOOC. However, in the aspects of instructional media, learning resources, retention of material, and learning evaluation, students perceive online learning using MOOC to be higher than offline Arabic learning.

To see whether the differences in perceptions were significant or not, a different test was carried out with SPSS version 25. The results of the analysis with an independent sample t-test to differentiate their perceptions of learning Arabic offline and online using MOOC can be seen in Table 4.

Based on the output in Table 4 shows the value of Sig. Levene’s Test for Equality of Variances is 0.476 > 0.05, meaning that the data variance between the experimental and control classes is homogeneous.

Table 4 also shows the analysis results using the independent sample t-test, which distinguished students’ perceptions of offline and online Arabic learning using the MOOC with a significance (2-tailed) level of 0.121 > 0.05. This result means no difference exists in students’ perceptions of learning Arabic offline or online using MOOC. Although statistically, there is no difference in perception, in general, students perceive learning Arabic online using MOOC to be higher than learning Arabic offline, as shown in the following picture:
Picture 2 shows students' perceptions of learning Arabic offline and online using MOOC. Based on the questionnaire collected, students' perceptions of offline Arabic learning got a mean of 3.63, and online Arabic education with a MOOC of 4.12, 0.49 points of online learning with MOOC are perceived to be higher than learning Arabic offline.

**Discussion**

In this discussion, we will explore student perception on the usage of Massive Open Online Courses (MOOCs) in Arabic language learning. We will analyze the effectiveness of MOOCs in achieving learning goals and discuss the use of supporting media to enhance student engagement. We will also consider how MOOCs can be used to support Arabic language learning in terms of providing resources for students and improving their overall performance.

The data presented above reflects students' perceptions of MOOCs. Almost 80% of students perceive MOOCs positively, both from a technical, practical, and MOOC perspective, as a supportive medium for learning Arabic online. This data indicates student acceptance of MOOC, although some features are still perceived as smaller than offline Arabic lectures.

The findings of this study corroborate several previous studies which show the effectiveness of using MOOCs for learning in tertiary institutions. In his research, Goh explained that comprehensive study materials in MOOCs are helpful for the learners as future reference and help learners understand specific topics and apply them in real life [34].

They were related to students' views on online Arabic learning with MOOC, which are not much different from this offline learning, perhaps because students still find it difficult to adjust to MOOC in terms of communication and learning methods which tend to be lecture rather than practice. Because of this, the MOOC program must continuously evaluate and improve the appearance and menus so that students can be more active in learning interactively and communicatively (Gamage et al., 2016). But most of the research on the use of MOOC for lectures in tertiary institutions, students perceive positively about MOOC [35]. Even when MOOC is combined with traditional classes, students perceive it positively [36].

The outbreak of the COVID-19 pandemic has forced people to practice social distancing and stay at home. This has led to an increased usage of Massive Open Online Courses (MOOCs) as a way for people to continue their learning remotely. MOOCs have proven to be an effective way for students to stay engaged with their studies during this period of disruption. Not only do they provide access to quality educational content, but they also offer a range of opportunities for creative learning and exploration. The use of MOOCs has had a positive impact on student achievement, particularly in the area of Arabic language learning. With the help of online courses, students can gain valuable knowledge and skills that will help them succeed in their studies even when physical classrooms are not available.

Even though students' perceptions of MOOC in learning Arabic are as effective as offline learning, students feel that there are many conveniences to be gained from implementing learning Arabic with MOOC, such as ease of access and engagement. Even though in the pandemic era, it was forbidden to leave the house and socialize with the community, students can still learn Arabic remotely with the MOOC platform.
Conclusion

Base on data and discussion above we conclude that in general, students’ perceptions of MOOC for learning Arabic online are positive and in a suitable category, although it needs further improvement in several ways in its implementation. Therefore, tertiary institutions are expected to be able to provide training to staff and lecturers to improve further their ability to manage MOOCs so that they are more varied in their implementation. Lecturers can input their teaching materials into the platform used so students can easily access them.

Even though the pandemic is now over and many tertiary institutions have carried out lectures offline, MOOC can still be combined with conventional education. For example, lecturers can input their materials on the selected MOOC platform for specific assignments, and students can access them at home within the specified time. Students can also upload their projects online so the lecturer can check them for review or correction if an error occurs.

At certain times, for example, when the lecturer cannot attend offline class, the teacher can replace it online with MOOC to maintain the number of meetings with students. This act has been done by many modern universities, which allow some of their lectures to be conducted online. But everything depends on the policies of each tertiary institution so that offline and online lessons can be carried out side by side.

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