

## Learning via MOOCs during the COVID 19 pandemic : perceptions of students and teachers at Cadi Ayyad University, Morocco

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doi: <https://doi.org/10.37745/bje.2013/vol12n94352>

Published August 11, 2024

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**Citation** : Essalih S. and Khzami S. (2024) Learning via MOOCs during the COVID 19 pandemic : perceptions of students and teachers at Cadi Ayyad University, Morocco, *British Journal of Education*, Vol.12, Issue 9, 43-52

**ABSTRACT** : *The COVID-19 pandemic disrupted the education of millions of learners worldwide. However, very few educational systems and their teachers were prepared for the sudden transition to online learning that ensued (Kanwar, 2020). The University Cadi Ayyad in Marrakech (UCAM) had already launched a platform for MOOCs (Massive Online Open Courses) in 2013. MOOCs are online learning environments that allow students to take courses on a wide range of subjects without limitation and at low cost (Veletsianos et al. 2015, cited by Alamri, 2022). Following the Ministry of Higher Education's decision to suspend classes in various university institutions and to ensure pedagogical continuity during this crisis situation, UCAM continued to adopt distance learning, including through MOOCs. In this context, it seemed essential to identify the perceptions of students and teachers regarding this online learning technology. The study was conducted with 15 teachers (interviews) and 840 students (questionnaire) within three faculties of the University Cadi Ayyad: Faculty of Sciences, Faculty of Letters, and Faculty of Law. The results showed that both populations (students and teachers) appear to be satisfied with the use of this type of system. They believe it had a positive impact on the teaching-learning process during the pandemic. However, they are of the opinion that MOOCs, although they offered learning opportunities, cannot replace face-to-face learning.*

**KEYWORDS** : MOOCs, teachers, students, distance learning, perceptions, COVID-19.

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### INTRODUCTION

In the contemporary period where “science and technology play an important role in the knowledge economy” (Foray, 2000), the world is becoming increasingly digitalized. This process has been further reinforced today by the health crisis that has affected everyone. In Morocco, since the announcement of the spread of COVID-19, the Ministry of National Education, Vocational Training, Higher Education, and Scientific Research (MEN) has taken preventive measures to avoid the spread of the pandemic. Schools, secondary and higher education institutions, training centers, and universities were thus closed. From March 16, 2020,

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Publication of the European Centre for Research Training and Development-UK faced with this pandemic that forced more than half of the world's population into confinement, it became apparent that distance learning was one of the efficient solutions to meet learners' needs. In-person classes were replaced by distance learning to ensure educational continuity. The confinement undeniably marked a turning point. In the field of education and training, there has been a true resurgence of the phenomenon of MOOCs or "Massive Online Open Courses."

The University Cadi Ayyad of Marrakech decided, through its MOOCs (platform launched in 2013), to contribute to the crisis effort and the sharing of knowledge in various ways.

MOOCs appeared a decade ago and have spread across the planet and the regions of each country as a phenomenon that has caused a very wide effect and a great impact on training and the cultural enrichment of human beings, opening doors to new products and services for society's use. MOOCs belong to the evolution of open education on the internet for a new era of digital revolution, so important that the New York Times International Magazine in 2012 considered it "The Year of the MOOC." According to Carrion (2016), MOOCs began to gain importance and an international connotation starting in 2015.

The MOOC is conceived as an open, free, and online course offered to a large number of learners (Karsenti et al., 2015). It is considered a new form of distance education whose popularity in universities in the United States, Europe, and elsewhere can be described as phenomenal in recent years. The acronym MOOC was initially proposed in 2008 to designate a form of education that integrates web dimensions, according to a theory called "connectivism" (Siemens, 2005). According to Cisland and Bruillard (2012) and Grover et al. (2012), the emergence of MOOCs reached its peak in 2012. However, its deployment in various forms is far from complete (Daniel, 2012). This emergence deserves the attention of the academic community: policymakers, teachers, students, and researchers. This educational technology has sparked much practical interest. Indeed, they are increasing exponentially, and their number has risen from 10 in 2011 to 4,000 in 2015 (Delpech & Diagne, 2016). The fact is that despite its exponential development, some researchers still question the real relevance of MOOCs. Are they more effective? Do they allow for better focus on teaching content?

According to Karsenti (2003), many studies have shown that a student can learn more and faster with ICT. The authors of these researches also emphasize that open and distance learning is a "fascinating and unique" teaching and learning option. The advantages are numerous in terms of flexibility, accessibility, communication, increased interaction, and diversification of teaching and learning methods. According to an OECD report, training using MOOCs contributes significantly to the current development of higher education, although their progression is below expectations. They can be described as "an approach that aims to expand access to education and training services by enabling learners to overcome the barriers of space and time and by providing flexible learning opportunities for individuals and groups of learners" (OECD, 2005).

This research with UCAM students and teachers aims to identify their perceptions on several aspects of this experience as actors and beneficiaries of distance learning through MOOCs.

## **METHODOLOGY**

In this study, we focus on the perceptions of users and designers of distance learning via MOOCs. Our objectives are (1) to identify and describe the perceptions of university teachers and students, (2) to compare the perceptions of teachers, and (3) to identify the difficulties encountered and the elements of satisfaction with MOOC training by determining the impact of this technology on the teaching-learning process.

We opted for a methodology based on a quantitative analysis of the data collected through a questionnaire. The questionnaire was distributed to a group of students, and semi-structured interviews were conducted with teachers. The questionnaire was developed based on a literature review and the results of a preliminary survey phase. After drafting the final version of the questionnaire, it was distributed to a group of students from various disciplines (physics, biology, law, and economics) who had participated in distance learning via MOOCs. A total of 840 students, of whom 45% were female, completed the survey questionnaire.

The sample of teachers consisted of 15 out of 45 UCA teachers involved in distance teaching via MOOCs, representing a participation rate of 20%. The semi-structured interviews comprised 14 questions and lasted between 30 and 60 minutes, recorded in mp3 format. During the interviews, general questions were asked first, followed by more specific questions. The responses to the questions in our interview protocol produced a text (faithful transcription of an oral statement) that we used to describe, analyze, and interpret the collected data.

The quantitative data collected were analyzed using Sphinx software (V5). The analysis of guided interviews was conducted by coding open-ended questions. Then, the responses were analyzed to characterize the different types of answers.

## **RESULTS**

In this section, the results are presented in response to the research objective of identifying the perceptions of students and teachers on the MOOCs used during the COVID-19 health crisis.

### ***A. Student Perceptions***

The analysis of responses to the first part of the questionnaire shows that 79.4% of students have access to a computer at home and 66.8% are connected to the internet. This indicates that the majority have the necessary means to access distance learning via MOOCs.

The other parts of the questionnaire provided results related to the advantages and disadvantages of MOOCs, student satisfaction rates, and the impact of MOOCs on learning and teaching.

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*Advantages and Disadvantages of MOOCs*

The results on the benefits of MOOCs show that 27% of students chose "the freedom to manage their time," 26% chose "the ability to learn at home," and 23% chose "saving time."

Other students (16%) believe that "saving time and money" is an advantage due to not having to travel to benefit from MOOC technology. However, only a minority of students (4%) noted that MOOCs can enhance their learning capacity.

The participants in our study thus chose benefits according to their needs, beyond the fact that there was educational continuity. Most of them place great importance on spatial and temporal dimensions and the learning pace, which they consider to have an effect on learning.

Furthermore, the analysis also showed that a large proportion of surveyed students (75.5%) believe that "the lack of interaction with the teacher" is the most significant disadvantage in distance learning via MOOCs. Other students (15%) chose "having difficulty managing their time" as a disadvantage of using MOOCs, while for others (3%), the disadvantage is that "MOOCs were a waste of time." Some respondents presented other disadvantages, such as "lack of supervision," "lack of assistance," and "MOOCs giving students the impression that they could do without in-person classes."

The calculated difference between the results of the two genders is not significant.

#### *MOOCs and In-Person Classes*

The results showed that the majority of surveyed students (67%: 30.9% are girls and 36.2% are boys) stated that MOOCs could not be an alternative to in-person classes. The small calculated difference between the two genders (5.3%) could be explained by the fact that distance learning attracts more girls. Indeed, it is a more flexible characteristic in terms of study time and place.

#### *Student Satisfaction Rates*

The majority of respondents (61.7%) do not seem sufficiently satisfied with the quality of MOOCs provided by their university (UCA) during the lockdown. These students believe that this offer does not meet their expectations. Teachers should therefore be encouraged to enrich and further develop their MOOCs.

#### *MOOC Appreciation and Usability*

The student survey judged MOOCs, as a teaching approach, to be useful. The cumulative rates of "essential" and "useful" items were 67.9% compared to 32.1% for the cumulative rates of "not very useful" and "not useful at all."

Furthermore, the results also showed that learning via MOOCs seems to be easy for the majority of students (the cumulative rate of "very easy" and "easy to use" items is 76.5% compared to 23.5% for the cumulative rates of "difficult" and "very difficult" items). This reflects the interest of young people, both girls and boys in general, in ICT and particularly MOOCs, and their

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familiarity with these technologies.

This indicates that Moroccan students can learn with MOOCs, especially since they have the necessary means (computers and internet access) as mentioned above.

#### *Methods and Course Materials Used*

According to the results, we found that the majority of students stated that the methods and online course materials used by their teachers in MOOCs are "inadequate" to "very inadequate."

#### *Impact on Teaching and Learning Methods*

Only 38.8% of students stated that MOOCs have changed the way teachers teach in person. The same proportion thinks otherwise, while a quarter of the sample has no opinion.

To the question "Do MOOCs change your way of learning?", it seems that most students (75%) gave a positive response. Additionally, MOOCs seem to have an influence on the learning process, at least according to the students' opinions.

#### *Impact of MOOCs on Students' Academic Performance*

MOOCs seem to have a positive effect on the academic performance of more than half of the surveyed students (51% chose "agree" and "strongly agree" items).

### ***B. Teacher Perceptions***

The analysis of the interviews with 15 teachers from different disciplines revealed four major themes: (1) the teachers' relationship with MOOCs, (2) the objectives and performances achieved, (3) teaching through MOOCs versus in-person classes, and (4) the interest and future of MOOCs at the university.

#### *Teachers' Relationship with MOOCs*

This first theme is related to three questions. The first concerns the reasons why respondents proposed MOOCs before the COVID-19 pandemic. We want to understand what motivated these teachers to engage in this innovation.

Nearly half of the respondents seem primarily motivated by the desire to join the university's project to counteract the massification of students. One-third of the subjects explain that they chose to offer MOOCs mainly to facilitate access to information for students. Two teachers did so to provide an alternative teaching method that would complement in-person classes. According to another teacher, MOOCs appear to be a way to overcome unfavorable conditions (overcrowding, poor acoustics, disadvantages of the classroom) in which classes are held. Regarding the second analyzed question, "Are you satisfied with this choice because of the reasons that motivated you to teach through MOOCs?", the respondents' discourse indicates that the majority are satisfied with having proposed MOOCs. However, they added that "there are many possibilities for improvement" or "yes, but I don't know what students think of these

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MOOCs." Other respondents say they cannot claim to be satisfied. Concerning the third and last question of theme 1, "Is this experience positive ?", the respondents' discourse reflects similar views on the success of using MOOCs in university teaching. Thus, the experience is perceived positively by all the teachers interviewed.

### *Objectives and Performances Achieved*

In this section, we examine the results obtained for the four questions related to theme 2 in more detail. We focus on the objectives of MOOCs and the performances achieved. Regarding the first question, "What are your university's objectives for MOOCs?", most teachers respond that, before the pandemic, the university aimed primarily for MOOCs to support students. Some argue that the only clear objective was "to reduce the pressure of the large number of students on open-access institutions" or "to limit the massive influx in classrooms." One teacher believes that the main objective was to promote distance learning. After the pandemic, the main objective was educational continuity. Courses should be delivered remotely, including through MOOCs. Concerning the second question, "Has this tool helped students develop the skills targeted in the programs?", most respondents think that MOOCs do not enable students to achieve this goal.

Some argue that the only clear objective is "to ensure educational continuity." Courses should not be interrupted, and the academic year should not be sacrificed. The third question, "What are the targeted and achieved learnings in MOOCs?", addresses the teachers to understand the type of learning targeted and the performances achieved. Only one of the teachers mentioned that in their MOOCs, they targeted certain learnings: "the development of autonomy, skills, the ability to write, compare courses from different sources, translate." Other respondents do not seem to distinguish between learning and understanding or between learning and transmitting. Concerning the fourth question: "What is the impact on student performance?", half of the respondents mention an increase in success rates or the number of modules validated by students. Others say they are unable to affirm or deny that MOOCs have a positive impact on student performance.

### *Comparison of Teaching Through MOOCs and In-Person Classes*

In this section, we examine the results obtained for the three issues related to theme 3, which address "teaching through MOOCs in relation to in-person classes." Teachers' responses to the first question, "Can MOOCs replace lectures?", show that they unanimously agree that MOOCs remain educational tools intended to support students rather than replace lectures. Concerning the second question, "Do you think it is better to teach through MOOCs than in person?", the majority of respondents prefer in-person teaching, while some teachers see no difference between the two modes.

The analysis of teachers' responses to the third question, "Do you think that overall students learn better through MOOCs than in person?", shows that opinions are divided.

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*Interest and Future of MOOCs at the University*

This fourth theme is related to two questions: (1) What is the interest of MOOCs according to you? and (2) What is the future of MOOCs according to you? Some respondents to the first question believe that MOOCs have a particular interest in several respects: it is a tool that allows teaching to adapt to real conditions by trying to circumvent constraints through the exploitation of the great possibilities offered by modern media. Moreover, it creates a huge dynamic of exchanges and skill development. Others state they cannot confirm or deny that MOOCs have a positive impact on student performance. Other teachers report that MOOCs are indeed a very important tool but only allow for supporting students. They help students follow and understand their progress, solidify their ideas, and improve their level.

One teacher speaks of MOOCs as a learning tool but adds that ways to optimize their use must be sought. Another suggested that MOOCs facilitate access to information, improve success rates, invite students to conduct research, and represent the university's and faculty's brand image.

#### *Future of MOOCs*

At the end of these interviews, we asked teachers about the future of MOOCs at the university after the end of the COVID-19 pandemic. Teachers involved in MOOCs are largely convinced that this system will establish itself sustainably in the Moroccan educational landscape. The main reason is that it broadens access to knowledge. Nearly half also believe that MOOCs better meet learners' expectations of distance learning. Furthermore, it is an innovation that will be irreversible. However, they require that MOOCs be developed and improved. According to one teacher, the future is certain, provided more teachers join the project. Another insists that MOOCs must be designed considering our context and not just imitate MOOCs designed elsewhere.

## **DISCUSSION**

The results reveal that, according to the students, despite the advantages of MOOCs and their role in higher education, they cannot replace traditional or in-person classes. The latter is still necessary, and students place great importance on interactions with teachers. Across all the MOOCs offered, there is a lack of exchange with the teachers. Additionally, it is impossible to ask in-depth questions directly to teachers. Students also miss the lack of interaction among themselves. This is probably why the majority of students are not satisfied with this technology.

The results of this study also show a relatively positive effect of MOOCs on student success. More than half of the surveyed students confirmed this and also stated that there was an improvement in their learning. This result was confirmed in Rogers' study (2004). Moreover, the university platform allows students to review their courses at home in more appropriate conditions than in an overcrowded amphitheater where knowledge acquisition is difficult.

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However, the results show a difference in perception among students and teachers regarding the impact of MOOCs on academic success. Teachers are more reserved, cautious, and realistic. While they do not deny the cognitive potential of MOOCs, they emphasize that they do not necessarily have a positive effect on academic success.

On the other hand, despite the positive perception students have of the benefits of integrating MOOCs to improve their learning and manage the health crisis, they maintain that MOOCs are just a complement to in-person courses. Since MOOCs rely on student engagement based on their learning objectives, prior knowledge and skills, and shared benefits (McAuley et al., 2010), it is therefore necessary to improve and develop them further by trying to integrate discussion forums with teachers.

As demonstrated by the description and analysis of the collected data, the course designers who chose to propose MOOCs did so in response to the university president's request. Initially, the goal was to "find solutions to problems caused by the lockdown and the cessation of in-person classes."

The results obtained show that the teachers' expectations are relatively clear and consistent. The focus is on cognitive (especially conceptual) aspects rather than the learning process (tasks to be performed and their sequencing). Furthermore, teachers appear to be less productive in terms of pedagogical innovation and digital content production. Students view what is offered to them as a complement they can consult before or after in-person classes to better assimilate the taught content and improve their learning. The results also indicate that the majority of teachers adopt a transmissive model consistent with current practices. Apparently, they view the platform as an extension of the classroom in terms of space and time. Thus, the same choices governing traditional courses were carried over to online courses.

This underutilization of MOOCs can be explained by several reasons, including: the absence of regulations for distance diplomas, the lack of availability and involvement of teachers, and the lack of required skills for designing online courses.

The interviewed teachers indicated that the MOOCs offered could not replace in-person training. This leads us to reflect on the future of in-person training and further develop the "hybrid approach" in the coming years, which would reconcile in-person and e-learning.

Despite the positive perceptions of teachers regarding the integration of MOOCs, we find that they are content with minimal use of this technology. Additionally, these are challenges that call their current pedagogical practices into question in favor of more innovative technologies. Most teachers insist that putting courses online requires a significant investment of time and effort from teachers. Therefore, everyone agrees that this investment brings great satisfaction.

The majority of the interviewed teachers are convinced that MOOCs will establish themselves sustainably in the Moroccan educational landscape. The main reason is that MOOCs expand access to knowledge. Nearly half of the teachers also believe that they better meet the



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Publication of the European Centre for Research Training and Development-UK expectations of learners in distance education and that this is an irreversible innovation. These teachers want the pedagogical model of MOOCs to be the result of local reflection.

## **CONCLUSION**

The initial findings indicate that the widespread adoption of online teaching during the pandemic was primarily driven by the need to maintain relationships with students. They also suggest that while the pandemic has improved the acceptability of online education, it does not guarantee its permanent adoption.

University students, compelled to turn to distance learning via MOOCs, discovered that this technology offers much more flexibility than in-person education (non-mandatory attendance, resolution of geographical distance issues, etc.). However, this type of education is not without its disadvantages. It also presents challenges, including the lack of interaction with teachers and other students. Both students and teachers agree that interaction is a crucial aspect that should be maintained even in virtual education. Indeed, MOOCs are not suited for preliminary accredited learning but are a good alternative for student learning and development (Annabi & Wilkins, 2016).

Despite their affirmation of the positive impact of MOOCs on the teaching-learning process, both groups highlight the need to further improve the MOOCs produced at UCA. Students request activities, assessments, and discussion forums alongside MOOCs. Teachers, on the other hand, wish for the course videos to be recorded in the presence of students.

## **Limitations of the Study**

There are various forms of online education, online learning modules, and digital learning tools and technologies that enhance the quality of education. However, in this research, our primary objective was to understand the perceptions of students and teachers regarding MOOCs. To this end, only students and teachers who had experienced MOOCs were considered.

This study did not account for the differentiation of students based on their academic levels. It would be beneficial to extend this survey to different academic institutions. This should help identify the specific needs of students in this area to develop tailored MOOCs. Further studies should be conducted to analyze the explanatory factors of student motivation (school experiences, learning capacity, socio-economic factors, etc.) to better understand their needs.

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