Monitoring and evaluation of faculty's experience in E-learning during the Covid-19 pandemic - Case of SMBAU

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Abstract. During the period of lockdown due to the COVID-19 pandemic, a complete switchover to e-learning was mandatory for all universities to ensure pedagogical continuity and support for students in these exceptional circumstances. Indeed, since 16 March 2020, face-to-face courses at Sidi Mohamed Ben Abdellah University of Fez (SMBAU) have been suspended. Faced with this situation, the teaching staff was strongly committed to ensuring pedagogical continuity through e-learning systems. Thus, the SMBAU has put more than 11703 digital and audiovisual educational resources online through different digital platforms (MOODLE, Google Classroom, Microsoft Teams, Zoom, and faculties websites), of which more than 91% were put online on Moodle. This research investigates the experience of SMBAU teaching staff in using e-learning systems. We conducted a study through an anonymous survey. We proposed forty-for questions: thirty-five closed-ended and nine open-ended ones. Five hundred and fifty-two teachers from the twelve university establishments answered the survey. Through our analysis of the survey results, we obtained positive outcomes that shed light on the opportunities, limitations, and benefits of e-learning systems in higher education, particularly during critical periods of emergency.

Keywords: E-learning, Moodle, Covid-19, evaluation, qualitative analysis, higher education, educational technology.

1 Introduction

Today, the incorporation of information technologies in higher education is a crucial element for the advancement, revitalization, and enhancement of universities on a national and global scale. The importance of e-learning is well recognized globally due to the continuous advancement in information technology and the rise of Internet adoption worldwide. The COVID-19 pandemic has increased the importance of e-learning as it has facilitated education in proceeding worldwide during the lockdown [1]. E-Learning is defined as: “Education that uses computerized communication systems as an environment for communication, exchange of information and interaction between students

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and instructors" [2]. The e-learning market is growing rapidly worldwide; it is expected that it will reach $336.98 billion by 2026 [3].

In Morocco, the experience of distance learning has seen a leap forward since the pedagogical reform adopted in 2014, when it was stipulated in the national educational standards booklet for various degrees the possibility of teaching "part of the unit" at a distance. In this context, universities have undertaken several initiatives and efforts to use information technologies in higher education. The Moroccan digital university platform dedicated to Massive Open Online Courses (MOOC) was also launched, named MUN, which was developed in partnership between the Ministry and GIP FUN.

The Moroccan University has taken advantage of these experiences to activate pedagogical continuity during the lockdown period due to the COVID-19 pandemic. Indeed, since 16 March 2020, face-to-face courses at Sidi Mohamed Ben Abdellah University of Fez (USMBA) have been suspended. Faced with this situation, the teaching staff was strongly committed to ensuring pedagogical continuity through e-learning systems.

Thus, through its strategy, the USMBA has put online more than 11703 digital and audiovisual educational resources through different digital platforms, namely (MOODLE, Google Classroom, Microsoft Teams, Zoom, etc.), of which more than 91% were put online on Moodle. In addition, the USMBA offered its students, administrative, and teaching staff free access to one of the largest platforms of online courses "Coursera".

The aim of this research is to investigate the experience of USMBA teaching staff, and their perceptions and attitudes toward using e-learning systems. This study intends to explore the various opportunities and challenges those faculty have faced while online teaching. The rest of the article is structured as follows: First, we briefly review the relevant literature related to the adoption of distance learning during the COVID-19 pandemic. Then, we provide the research methodology and data collection procedure employed. After that, the empirical results obtained from the collected data are analyzed and reported. Finally, we discuss the results in terms of research contributions and future perspectives.

2 Literature Review

Traditional learning is a type of education that involves the gathering of a teacher and a group of students at a facility where face-to-face learning interactions occur [4]. Currently, with the rise of the COVID-19 pandemic, distance learning is progressively becoming a more fundamental part of education with the help of "e-learning", rather than traditional learning, which is another type of learning utilizing electronic technologies to access educational curriculum outside of a traditional classroom" [5]. In spite of the advantages of eLearning, disadvantages have equally been identified, including the lack of interaction between both students and teachers due to remoteness, therefore requiring a stronger motivation than required in a traditional classroom; the negative effect on the student's communication skills; and the less efficient technique of learning compared to the face-to-face learning process [6] [7]. Furthermore, not only does the

COVID-19 imposition of distance learning affect students, but it equally affects the faculty staff as well. With the adoption of this type of learning medium on the rise, faculty members are required to discover new techniques in order to prepare, organize, deliver, and assess courses and learning materials for online teaching, as it is argued that the online teaching value is different from that in a traditional classroom setting [8]. Although online teaching has been partially implemented globally, specifically in higher education, resistance to technology use exists, as faculty members may lack technology familiarity and may require both guidance and training [6]. Moreover, various factors play a role in the impact on online education and faculty members, including, faculty performance towards the quality of education, faculty readiness to teach online, the instructor's competency, and attitude toward online course delivery [6][8][9]. Faculties must also develop instructional strategies in order to improve their students' learning engagement, such as dividing the teaching content into smaller portions to aid their focus, improving their speech to help students apprehend key points, and many more [10].

In Morocco, in light of the lockdown period due to the COVID-19 pandemic, Moroccan universities were able to produce more than 110,000 diverse digital resources to enable students to continue their academic studies. These resources include digital and audiovisual materials that represent between 70% and 100% of the educational content programmed during the quarantine period. Also, about 736 courses and video lectures were presented on the "Arriyadia" TV channel, in partnership with the National Broadcasting Company (SNRT), between 26 March 2020 and 26 June 2020. The Moroccan Ministry of higher education has developed a platform for live and direct access to digital university resources, after broadcasting on the "Arriyadia" TV channel: https://run.enssup.gov.ma [11]. Furthermore, Moroccan universities' faculties have used many remote platforms to ensure greater interaction with students such as Google Classroom, Moodle, Microsoft Teams, Google Meet, Zoom, etc.

Several studies have addressed the opportunities and challenges associated with the transition to e-learning instead of traditional learning. Li S, et al [12] conducted a comprehensive analysis of numerous studies that investigated the experiences and perspectives of students and teachers at medical education institutes. Elshami, et al. [13] examined the satisfaction with online learning during the current pandemic among 358 students and 70 teachers in UAE. A high percentage of teachers (63%) were more satisfied with online than in-person learning, and 92% of them also reported that students demonstrated higher enthusiasm toward online than traditional learning.

A study that aims to evaluate the E-learning experience in the light of Covid-19 in higher education has been presented by Ahmad, et al [14]. The main findings of the study indicated that students' satisfaction and evaluation of the e-learning experience during the pandemic were not promising. Also, higher education institutions should reconsider their efforts and approaches to improve the quality of e-learning and the learning outcomes achieved, especially improving IT infrastructure, Internet access, and particularly network connectivity to support fully online courses.

Another study carried out by Esther, et al. [15] recommends that institutions of higher learning should involve all stakeholders in the development and implementation of E-Learning systems, develop E-Learning policies, carry out capacity building and change management, and avail continuous technical support to learners and educators so that E-learning is widely accepted and adopted.

A review exploring E-learning challenges during the global COVID-19 pandemic was carried out by Aini, et al. [16]. The findings of the study indicated that formal training in instructional and visual design may be necessary for lecturers to effectively conduct e-learning [17]. Lecturers find themselves spending more time preparing for e-learning and managing increasing volumes of learning materials [18]. Maintaining student engagement in both asynchronous and synchronous settings can be challenging, which can also affect the delivery of assessment components through e-learning systems [17][18].

Nevertheless, there are limited studies that investigated the imposition of distance learning through digital platforms in regard to higher education teaching staff as an effect of the COVID-19 pandemic. The gap in the literature includes a lack of information about higher education teaching staff's experiences, attitudes, and perceptions, and how teaching online has affected their role and teaching strategy. Therefore, the aim of this study is to assess this impact and the factors associated with its effect on online education provided by different faculty members of Sidi Mohamed Ben Abdellah University.

3 Materials and Methods

3.1 Study design

The purpose of this study was to examine how faculty members of USMBA view the experience of the unexpected switchover to distance learning as the only option to deal with the COVID-19 pandemic. The study was conducted on teaching staff of different institutions of Sidi Mohamed Ben Abdellah University in May 2020 through an online survey with forty-four questions: thirty-five closed-ended and nine open-ended.

3.2 Participants

The survey was distributed online in two versions (Arabic and French) and was completed by a total of 545 faculty members of USMBA. Table 1 shows the distribution of teachers by seniority/grade/subject area, and Fig.1 shows the distribution of teachers by institution.

Table 1. Distribution of teachers by seniority/grade/subject area.

Distribution of teachers by seniority

Seniority	Less than 5 years	From 5 to 10years	From 11 to 20 years	More than 20 years
Headcount of teachers	134	99	80	232

Distribution of teachers by grade

Grade	PA	PH	PES	Other
Headcount of teachers	155	128	229	3 3

Distribution of teachers by subject area

Disciplinary fields	Science and technology	Low sciences	Economics and Management Sciences	Letters and Humanities
Headcount of teachers	226	49	49	137

Disciplinary fields	Engineering Sciences	Education Sciences	Health and medical Sciences
Headcount of teachers	48	10	25

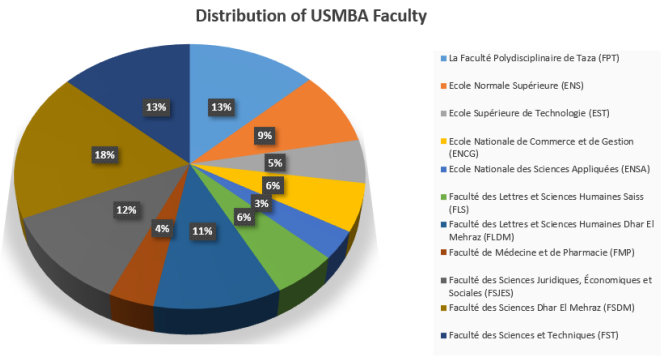

Fig. 1. Distribution of USMBA Faculty by Institution.

3.3 Data collection procedure

The presented qualitative data were collected in May and June 2020 during the COVID-19 lockdown. The data collection process was carried out through an online survey which was categorized into eight main sections with the first section being the affiliation of USMBA teaching staff, their seniority in the higher education sector, and their Disciplinary fields of teaching. The second section examined questions measuring the degree of need for e-learning for pedagogical continuity. The third section explored the faculty's previous experience in distance learning and which diplomas were covered by their distance learning. The fourth section examines the Institutional support for teaching staff in e-learning and their satisfaction with it using a three-step Likert scale ranging from 1 =Very satisfied; 2 = Satisfied; 3 = Unsatisfied. The fifth section focused on faculty's contribution to teaching activity, their hourly volume, and the course materials they use, and also on student participation and attendance in online courses. The sixth section measured the assessment of the tools and platforms used in e-learning such as MOODLE, Google Classroom, Microsoft Teams, Zoom, etc. Finally, the last section was about giving prospects for the development of distance learning.

3.4 Results and Discussion

Despite the fact that 71% of teachers had no previous experience in how to deliver online courses, the USMBA noted a deep commitment from its teaching staff who were motivated to participate in this experience. To this end, the USMBA has supported its faculty in the implementation of online courses, through several training sessions on the use of Moodle platform, including the Creation and Management of content, Collaboration Tools, and Tests & Evaluations. This has contributed to the fact that among the different tools used (Fig.2), teachers have mastered the use of Moodle and prefer it to other platforms, as shown in Fig. 3.

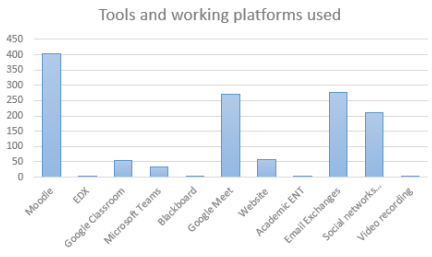

Fig. 2. Tools and working platforms used.

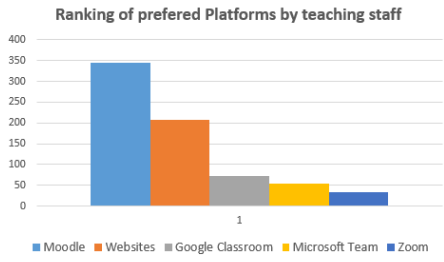

Fig. 3. Ranking of preferred e-learning platforms.

The percentage of professors who have received support from their institutions, by recording their courses using video technology does not exceed 30%; on the other hand, almost 85% of them have confirmed their access to the working tools required for distance learning, such as institutional e-mail, institutional digital platforms and tools facilitating the communication process with students.

The collected responses from the questionnaire reveal some interesting findings regarding the perceptions and needs of teachers regarding distance learning and innovative pedagogies. About 83% of teachers expressed a desire to receive support for innovative university pedagogy, while a significant number of teachers also expressed a need for support with distance learning platforms. The results also suggest that teachers may be hesitant to adopt new technologies due to a lack of technical assistance (31%), difficulty in keeping up with technological developments (14%), and a lack of training (18%).

However, the strengths of distance learning were also acknowledged, with teachers recognizing the benefits of flexible learning, virtual classroom management, flexibility in terms of pace, time, and location, and the richness and diversity of digital educational resources, as shown in Fig.4. One challenge that emerged was the perception that preparing for distance learning courses may require more time than in-person teaching. In fact, about 84% of the teachers surveyed had encountered difficulties in their experience of distance learning. These difficulties are categorized in Fig.5. This is due to the fact that 71% of the teachers had no previous experience in e-learning. Furthermore, a significant proportion of Faculty, around 57%, possess more than 11 years of seniority in higher education and may not be well-versed in digital tools. Conversely, only 25% of the surveyed teachers are young beginners who tend to adapt more easily to pedagogical innovations.

Overall, these findings suggest that while there is a willingness among teachers to embrace innovative pedagogies and distance learning, there is also a need for support and resources to help them navigate the complexities of these approaches. Providing such support may be key to helping teachers overcome the barriers to adoption and fully realize the potential benefits of digital and innovative pedagogies.

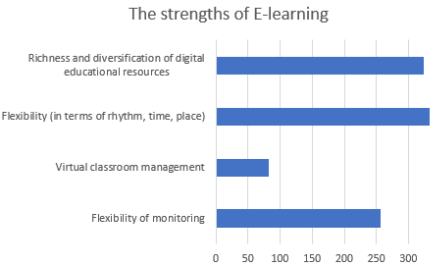

Fig. 4. The strengths of E-learning

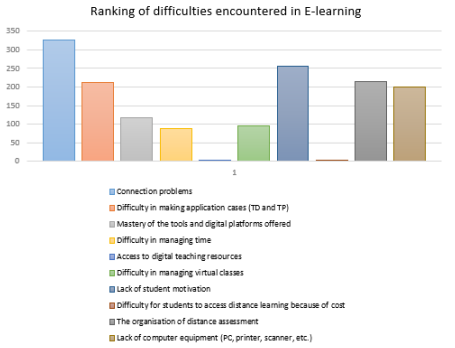

Fig. 5. Ranking of difficulties encountered in E-learning

4 Conclusion and recommendations

It seems that the circumstances that Morocco has undergone during the COVID-19 pandemic, have convinced teachers of the need to use distance learning to develop pedagogical offers presented to students, as more than 64% of the teachers surveyed confirmed that this type of teaching can improve face-to-face teaching.

75% of the teachers surveyed expressed their intention to adopt e-learning systems as a complement to face-to-face teaching in the future, and 83% of them expressed their wish to benefit from training and support in the use of e-learning platforms.

This study was carried out in order to explore USMBA teaching staff attitudes and perceptions towards distance e-learning as a new mode of instruction amid the COVID-19 pandemic. The results of this investigation revealed that the majority of respondents who expressed relative satisfaction with the E-learning process reached 88%, while 12% expressed they were not satisfied.

In light of this study, several recommendations to improve the success of e-learning can be suggested. These include enhancing teacher-student interaction, providing adequate technological equipment, and ensuring both parties have access to high-speed internet. Additionally, it is suggested to rationalize the technical resources used and increase student motivation through more secure and professional methods. Logistics, technical assistance, communication coaching, and the preparation of educational content are also areas that can be improved. Finally, offering more training courses on e-learning platforms can help to further promote their use.

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