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The Impact of Remote Education on University Students at Cadi Ayyad University in Morocco: Situation and Perceptions

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Abstract
This study analyzes the impact of remote education on the students of open-access institutions affiliated with Cadi Ayyad University in Marrakech, Morocco. This study is based on the collection of qualitative and quantitative data from questionnaires answered by 1760 students, 193 professors, and 51 administrative executives. To better understand the impacts of the pandemic on a context afflicted by vulnerability, this study chooses four focal points for its analysis of remote education's impact on the aforementioned population: Perceptions, Costs, Student Experience, and Attendance. In so doing, this study encourages the production of scholarship on educational experiences in times of crisis in Global South countries.

Keywords: Remote Education; Lockdown; Higher-Education; UCA.

1.0 Introduction
The global Covid-19 pandemic-induced regulations on social distancing, lockdowns, and other aspects of social life predictably created immense pressure on higher education and threatened pedagogical continuity in a highly unpredictable setting. While most universities' structures and institutions lacked the necessary mechanisms that would ensure a smooth transition into remote learning, Global South universities found themselves in particularly dire situations because of the inadequacy of the existing infrastructures and resources which posed an obstacle to the provision of quality remote education on the national level. This study thus aims to focus on the case study of open-access higher education institutions affiliated with Cadi Ayyad University (hereafter, UCA) in Morocco to better determine how this university has fared in its abrupt transition to remote education and technology-based information dissemination and pedagogies. This article attempts to reach this aim by achieving three major objectives: illustrating unfiltered student perceptions of their learning processes during the determined period, delineating the cost shouldered by students contra the inadequacy of state solutions and generalized pedagogies during the pandemic, determining the effects of the pandemic and emergency student education on student performance.

The findings of this study point not only to a necessary shift in student understanding and experience of learning in a higher education context, but also a necessary dependence of the quality of the learning experience on the individual resources and equipment available to each student in their home environments. The situation is particularly alarming in the case of this study's population of interest (the student community enrolled in open-access higher education institutions affiliated with UCA), which makes up 86% of enrolled students in

UCA.* Vulnerability is thus a major characteristic of the studied population as can be seen through its high dropout rates and the reliance of 48000 of its students on need-based scholarships.* The consequences of the pandemic and the switch to remote learning can thus better be observed in the evolution of the learning experiences of this category whose needs, and specificities were neglected by these new learning methodologies, thus further deepening the inequalities relating to access in this transformed learning experience. This study chooses an approach that is grounded in community perceptions and concerned with three major foci centering around cost, student experience, and attendance.

2.0 Literature Review

The Covid-19 pandemic's disruptive effect on educational continuity has had a stimulating effect on literature produced about online and remote education. While some have preferred to use terms such as distance education and remote education, in this study we opt for the term emergency remote education (ERE). We believe this term to be far more accurate in its description of the various forms of remote education that different countries have been forced to apply. Indeed, a major characteristic of this type of education is the urgency, consequent lack of planning, and obligation involved in the situation caused by the pandemic. Conventional use of terms such as online education comes with the implication of choice, which entails a capacity for long-term planning and provision which was not allowed by the emergency of the global sanitary crisis that has kept students from pursuing their studies physically at their universities. Our choice is thus justified through reliance on two major approaches to the concept. The first, as used by Antonella Giacosa justifies the use of this terminology based on the goal of the educational response to the pandemic which lies in "helping students, teachers, and lecturers carry on with their learning and teaching activities and to conclude the school year" (Giacosa, 2020). On the other hand, Bozkurt argues for the same terminology based on a conceptual perspective as follows:

> (…) Distance education, for instance, is a planned activity and its implementation is grounded in theoretical and practical knowledge which is specific to the field and its nature. On the other hand, emergency remote education is about surviving in a time of crisis with all resources available, including offline and/or online (Bozkurt, 2020).

Two major focuses of the literature on ERE are of immediate relevance to the interests of this study: The first is the widespread discussion around access to networks. Indeed, considering the reliance of ERE on access to networks this has posed a major issue for students who could not have access to it, particularly in Global South countries where the necessary infrastructures are not available to everyone (Muftahu, 2020). Yet, as is explained by Bozkurt, despite the importance of issues of accessibility to the current conversation, access to adequate internet networks is not the sole challenge standing in the way of effective ERE teaching methods. Indeed, such an over focalization on internet access draws the attention away from the necessity of what Bozkurt calls "the self-directed learning skills" needed to navigate and benefit from ERE. Students' ability to utilize the resources and opportunities provided by these networks is not only central to their learning process but, directly proportional to their respective socio-economic status (Bozkurt, 2020). ERE requires a certain level of self-regulation skills that give students a considerable amount of responsibility for their own learning experiences which could heavily influence ERE experiences even if internet access is ensured (Aguilera-Hermida, 2020). Indeed, as demonstrated by Iglesias-Pradasa et al. (2021), among other factors which decide the effectiveness of ERE experiences beyond internet access, we cite: Modes of instruction (synchronous/asynchronous), instructor/student familiarity with online learning and supporting technologies, class size, organizational structure, and bureaucracy at university-level.

The second major focus of the literature on ERE is concerned with accessibility to and simplicity of use of technological and digital tools. As explained by Antonella Giacosa, it is the lack of digital experience for education by all the involved parties that have had aggravating effects on the levels of anxiety and the perception of the experience of ERE (2020). In literature about ERE, special attention is given to digital literacy, its evolution, and the assessment means used to understand ERE and evaluate this latest experience. The case study of Middle East College conducted by Guangull et al. focuses specifically on the study of the types of remote assessments, their respective quality criteria, and the precautions needed when preparing assignments and assessment sheets for ERE. The authors explain that ERE cannot succeed if faculty members and institutions alike simply reproduce existing pedagogies used during face-to-face classes and add a technological barrier to them. On the contrary, as Bozkurt supports, it is crucial for the success of ERE experiences for all steps of its processes and pedagogies to be adapted to and aware of the challenges posed by its nature (Bozkurt, 2020). Otherwise, as is explained by Łukasiewicz-Wieleba and Romaniuk in their case study of the Maria Grzegorzewska University, the responsibility of the learning process falls squarely on the shoulders of the students, who must deal both with being isolated and with having to decipher extensively and often chaotically presented material on their own (Romaniuk & Łukasiewicz-Wieleba, 2020).

As a result of the literature's focus on the aforementioned factors, it undoubtedly points to social justice and inclusivity becoming an important basis of the academic and public discussions surrounding ERE. Thus, the argument for a care-based education or care-based pedagogies is consistently reiterated (Giasco 2020, Bozkurt 2020, Coutts et al. 2020). Such an approach is defined in terms of the necessity of recognizing and addressing the diversity of student experiences and vulnerabilities and of the existing inequalities that preceded the pandemic and were further exacerbated by it (Bozkurt, 2020). In that sense, Giacosa (2020) argues for the need to multiply forms of access options given to students that are adapted to the different individual needs that would ensure equity among students. For that purpose, Coutts et al. (2020) demonstrate in their comparative study of a set of Arab countries how the specificities of varied vulnerabilities could

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* Data extracted from official informative sheets distributed by the Ministry of Higher Education in the internal offices of UCA's administrative body.

be solved at national levels at times. Indeed, they mention the role that certain software companies have played in collaborating with governments and reprogramming their software in Arabic to overcome the disparities deepened by the language barrier which intensifies learning difficulties, particularly in more vulnerable socio-economic groups (Coutts et al., 2020). A particularly relevant example for our study is that of companies that have worked on adapting platforms for mobile use to facilitate the navigation of their website and consequently the student learning experience on different devices, the latter being correlated to socio-economic status as well (Coutts et al, 2020).

3.0 Methodology

For this study, we have chosen to adopt both a quantitative and qualitative approach to the study of UCA's performance of ERE during the pandemic. This is done through this study's reliance on results from a quantitative study led among open-access institutions affiliated with UCA, in addition to follow-up semi-structured interviews. Quantitative results were thus collected among a virtual snowballing sample, which was accessed through the use of a Google form questionnaire. Among the indicators of this questionnaire's interests are: reliability of transmission, devices used, network reliability, diversity of shared course material, etc. The respondents to these questionnaires belonged to one of six affiliated institutions: the Faculty of Law and Economics (FSEJS), the Faculty of Arabic Language (FLAM), the Faculty of Letters and Human Sciences (FLSH), the Faculty of Sciences Semlalia (FSSM), the University Center of Kelaa Sraghna (CUKS) and the Polydisciplinary Faculty of Safi (FPS). The population is constituted of 1760 students, 193 professors, 53 administrative officials. 31 of these respondents were contacted for follow-up, based on the criteria of qualification and availability shown by the questionnaire, they were asked to participate in semi-structured interviews on the phone, to better ground this study in the ***perceptions*** of various stakeholders. The ratios of representation of each of the three categories (student, professor, administrative official) were maintained for the qualitative study. A more detailed account of the results of the quantitative study was explored in the collective work titled *Dispositifs d'enseignement-apprentissage en période de Covid-19: Défis et scenarios prospectifs à l'UCA (Maroc)* (L'Harmattan, 2021) and contributed to by the authors of this article, the current research thus constitutes is a continuation of that effort that focuses on the perceptions of these various stakeholders.

4.0 Findings

This study's main findings as they relate to our research objectives will be detailed through two major foci: First, the variety of costs that students were forced to bear due to inadequate structural approaches, and second, the effects of the situation on student performance based on their perceptions of their experiences and student attendance.

4.1 Variety of Costs

The majority of examined students, around 520, asserted their reliance on the use of 3G and 4G connexion to access their classes and course material, followed by 318 students who could rely on an ADSL connection, 82 students were able to rely on both 4G and ADSL usage, and 53 had access to optical fiber networks. The large disparity between the types of internet connection used also reflects the disproportionate levels of living standards among the examined population. Indeed, most of these students have had to rely on their cellular phones to study, although access to the internet on cell phones is often made through prepaid phone refills, which would not allow students to have adequate access to the entirety of the pedagogical content uploaded by professors and made available on institution platforms and/or social media. The most used device is thus the cell phone, used by 499 students of the examined population, then laptops by 377 students, desktop computers by 148 students, and 31 students having access to multiple devices.

Students coming from underprivileged social contexts, suffering from limited access to the internet, unstable connection, and inadequate equipment, have seen their spending rise significantly in their attempt to access online classes and materials. For these students, the costs relating to internet consumption have grown to be an additional financial burden. Additionally, the amount of work invested by students seems to have doubled particularly due to the transmission of course material in sometimes voluminous, often unexplained PDF documents. In their attempts to remedy this situation, our interviewees report two main strategies:

(1) The first lies in downloading files (videos, audios, PDFs, and PPTs) sent on WhatsApp groups by their classmates who have access to a Wi-Fi connection, as is the widespread practice by all class delegates who try to ensure the maximum dissemination of information. The following quote from one of our interviewee student delegates attests to this as follows:

> "...Quite a few students tend to ask me to download files for them…(as) many of them don't even have smartphones…"

(2) The second lies in choosing to only use static type documents such as PDF documents and relying on themselves to understand the course material, often uploaded on the platforms in bulk (from 70-100 pages). This can be seen in the testimony of one of our interviewees as follows:

> "...Most students who don't have the means to access a Wi-Fi connection use internet flat price packages which allow them to have access to social media but not to access YouTube videos in case they do not understand something…"

4.2 Student Experience & Attendance

Anxiety & Attendance:

The abundant use of voluminous PDF documents, at a time when dynamic course materials are freely available on the internet, has created a general feeling of neglect and insecurity among students. They have repeatedly reported feelings of abandonment which were exacerbated by their anxiety over the pandemic.

> "... What I hate the most are the PDFs, too long without any explanation, (...) when you open them and you find a hundred or two hundred pages-long books, you feel a (...) certain disappointment."

In the face of such constraining conditions, two types of student profiles can be detected: (1) the independent learner who chooses to persevere in the face of existing challenges and looks for information on the internet to remedy the lacunas created by the inadequacies of the aforementioned situation, as is the case of the student whose description of their experience has been; (2) the disoriented student who abandons all efforts due to feeling overwhelmed with the amounts of raw information they are presented with, with little to no assistance. Class delegates speak of the third category of students which stand completely outside this categorization as it cannot in any way be integrated into ERE processes, as follows:

> "...Those who don't have a cellphone or a laptop…, there is no solution…, they have to try to communicate with other students who are far away and let them know what they need…"

It is easier to measure the number of students who have had difficulties keeping up by relying on the data relative to the numbers of students whose attendance was confirmed by professors. Though it is important to take into consideration while using such a method, that a certain number of students do not attend classes outside pandemic-induced reasons, it is exceedingly difficult to check whether those students are part of overlapping populations or not. The fact of the matter remains that aside from issues related to course-material access, the appalling levels of attendance can also serve as a major indication of the students' resignation and difficulty of access to the platforms provided.

> "...The number of students who interact is very limited, take for example Semester 2…, according to the attendance lists, it should be around 300 students…, but those who use this platform do not exceed fifty people…, that's 15% to 20% per group…"

The Case of Class Delegates:

Throughout this period, class delegates have taken up duties that they were not responsible for to compensate for the systemic deficiencies which they encountered. As such, they have had to coordinate between professors and students, manage WhatsApp groups of 100-400 students, manage students with specific needs and ensure access to course materials. This is attested to by the following quote from a professor at the Faculty of Law and Economics (FSJES), as follows:

> "...The students have another problem, they don't have an internet connection, … they cannot watch the videos, it is the role of the class delegate, they download the videos and take care of posting them on the WhatsApp group…"

By being the only students maintaining close contact with professors, class delegates were given the possibility of filtering the questions asked to the professors by other students, thus giving them the privilege of detaining more information and power over other students' learning experiences as well as their own. This proximity between the class delegates and the professors set up a hierarchy between students and class delegates, and was explained as follows:

> "... In class, you can ask questions and speak about your concerns, you are allowed contact with professors and the capacity to build ties with them. Unfortunately, in remote learning, the class delegate filters messages and questions to be asked to the professor…"

To such expressions of dissatisfaction with the perceived privileges granted to them, one of our interviewed class delegates replies in the following way:

> "...90% of students have issues and concerns, particularly girls, whose phone numbers are taken by people in the group, who harass them, … we may receive phone calls at midnight…"

If anything, such diverse testimonies attest to the reality that class delegates have been expected to take on roles that not only exceed their responsibilities to compensate for the lack of structural solutions but also exceed their capacities as students. This is particularly flagrant, in the cases where such duties induce additional stress to students who must ensure their academic learning as well as other students' while being exposed to harassment.

5.0 Discussion & Limitations

This study demonstrates that the efficiency of ERE for students and professors of Cadi Ayyad University remains lacking. The realities unveiled by the pandemic and the subsequent inadequacy of the university's attempted transition towards ERE face open-access institutions affiliated with UCA with the necessity of diligent efforts in the creation of holistic planning strategies which are mindful of factors

of inclusivity and vulnerability. Indeed, the analyzed data draws the image of an abruptly put-together approach to ERE which settles for the accumulation of existing content dumped on information dissemination networks, instead of a well-designed strategy of inclusion and collaboration. The division of learning experiences across class lines, the unilateral learning process constraining students to the roles of passive consumers, and the reliance on student initiatives to redress structural deficiencies can very well attest to that. Nonetheless, it is important to consider that the above-mentioned findings concerning the implementation of ERE at UCA and the determined problems were not caused solely by inadequate strategies and approaches to the implementation of ERE. Indeed, many of the discussed issues relating to the lack of inclusive strategizing and collaboration have long preceded the Covid pandemic on a national level and are deeply rooted in Morocco's colonial history and post-colonial state-building attempts. Consequently, in pointing out these issues in the context of the pandemic, this article does not intend to imply that UCA's ERE ought to offer a solution to historically salient structural inadequacies. Instead, this article relies on student perceptions to show the consequences of UCA's ERE strategy's failure to plan for an inclusive strategy in a context known to be characterized by deep inequality and structural inadequacies, thus resulting in the deepening of said inequalities. This article thus hopes to encourage further research in perception-informed strategies that can support universities' approaches to ERE as an opportunity to build inclusive universities.

6.0 Conclusion & Recommendations

While the challenges and constraints generated by the specificity of the studied context - the particularity of the social circumstances of students, the large distance separating students and their learning environments, the financial constraints, etc. - are at the center of the demand for higher flexibility and access to ERE tools, the pressures exerted on vulnerable students have turned the impact of otherwise very practical methods, into a divisive negative impact. This brings about questions of equity and equality of access. Indeed, this study establishes primarily that the Covid-19 pandemic has generated a wide digital divide which cut out a majority of UCA students from the possibilities and opportunities of the learning experiences they were entitled to during lockdown. The potential transition from face-to-face learning to ERE in the long term calls for a radical transformation of pedagogical approaches to rely on more varied, dynamic, digitized, and inclusive systems of information dissemination. The adoption of what the literature has termed a "pedagogy of care" is specifically recommended (Bozkurt, 2020). Engaging students in open dialogue, understanding them as individuals with specific needs and capacities, mitigating feelings of insecurity, and ensuring various and reliable lines of communication are central to future ERE endeavors. Just as importantly, the university needs to invest in open education platforms to support students through their learning experiences all the while negotiating free-of-charge access to educational websites with network companies. Only through targeted investment in solving the structural issues hindering the success of ERE can universities such as UCA improve their ERE experiences. Future research based on student perceptions of practical solutions and approaches to improving UCA's ERE would be most valuable as questions concerning possible solutions were not addressed to the population of this study.

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