Distance Learning Amidst Covid-19 Pandemic: Attitude and Assessment Performance of High School Students in Three Moroccan Private High Schools

Taoufik Khotbi

Faculty of Letters and Human Sciences, University Mohammed-V- Rabat Morocco

ABSTRACT: The outbreak of Covid-19 pandemic worldwide urged educational institutions to come up with quick and effective alternatives to ensure students' learning and academic year continuity. Morocco was no exception to deal with that situation. As a response to the pandemic, the Ministry of Education launched distance learning as a "new" mode for learning across the country. The objective of the current study is to investigate students' attitude towards distance learning during the pandemic. Also, it is an attempt to evaluate the impact of distance learning on students' assessments. 119 students from 3 private schools in Rabat Morocco were involved in the study. A closed-questionnaire was shared with the target population via Google-Form. Later, 12 student informants were recruited to share insights on their learning journey amidst the outbreak of the pandemic. The findings reveal that students' attitudes have shifted to a positive direction after being introduced to distance learning. However, the findings indicate that there is a negative correlation between distance learning and in-class assessment. The study also concludes by key recommendations found in the students' responses and review of literature on the need to adopt effective methods in distance learning.

KEYWORDS: Assessment Performance, Covid-19, Distance Learning, Moroccan High schools, Students' Attitude.

INTRODUCTION

When Covid-19 struck the city of Wuhan, China in December 2019 the rate of infections and mortalities increased drastically. The outbreak of the virus has pushed the World Health Organization (WHO) to declare a state of pandemic worldwide on March 11th 2020. Many countries around the world seemed to lose their abilities to manage the pandemic as the worrying spike of mortalities kept increasing rapidly. Unfortunately, a lot of countries decided to take sudden and radical decisions such as declaring a state of emergency, opting for a total or partial lockdown and imposing a strict confinement as safety measures to control the spread of the Covid-19 pandemic.

The pandemic has caused exceptional changes that affected societies at different levels. Like many countries, in Morocco, a number of measures and decisions for the educational system came to the fore. On March 13th 2020, the Ministry of Education decided to suspend all face-to-face teaching and learning in schools, universities and other learning spaces. The country has gone into a strict confinement policy that enforces physical distancing in public and private spaces. With this situation, traditional learning has become a far reached possibility and hence distance learning was an obligation rather than a choice.

On April 4th, 2020, with the officialization of distance learning as the mode to adopt for all school goers including students in higher education systems in Morocco, the approach came to sustain lesson coverage and students' preparation for the awaited school exams. Herein, the current study aims at investigating the attitude of high school students towards the new mode of learning and evaluating the impact of distance learning on students' assessments. It is worth to mention that the findings of the current study do not concern students in the public sector because they did not benefit from distance learning. Therefore, the study advances the following research questions:

1. What is the students' attitude towards distance learning during Covid-19 pandemic?
2. Does distance learning have an impact on students' performance?

REVIEW OF LITERATURE

1. Definition of Distance Learning

Distance Learning, hereafter DL, is often a perplexing field due to the multiplicity of terms used. Phipps & Merisotis (1999) state "It is important to understand what is meant by 'distance learning.' Because the technology is evolving, the definition of what distance learning is continues to change (p.11)." Indeed, having a concise and operational definition to the term is the foundation for a significant research-driven-progress to be attained. On the one hand, Roblyer & Edwards (2000) define DL as "the acquisition of knowledge and skills through mediated information and instruction, encompassing all technologies and other forms of learning at a distance (p. 192)." This means that the definition by Roblyer & Edwards does neither deferientiate between the forms of education (formal, non-formal, informal) nor determines the time and space for learning. However, Newby et al., (2000) define DL as "an organized instructional program in which teachers and learners are physically separated (p. 210)." On the Other hand, Moore & Kearsley define (1996) DL as:

> "…planned learning that normally occurs in a different place from teaching and as a result requires special techniques of course design, special instructional techniques, and special methods of communication by electronic and other technology, as well as special organizational and administrative arrangements (p. 2)."

The current study adopts Moore & Kearsley's definition, as it is believed to be self-explanatory with details related to structure, instructional techniques, methods of delivery and agents' involvement.

2. Distance Learning and Students' Attitude

In a non-traditional context of learning, students are more likely to have different attitudes towards DL. The distance from instructors, the psychological effects of the pandemic and ldegree of acquaintance with Information and Communication Technology (ICT) tools are factors to impact the students' attitude and performance. A study by Draissi & Young (2020) on the implementation of distance education in Moroccan universities upon the outbreak of Covid-19 shows that students' autonomy in task-taking and learning increases at the level of higher education studies. The study entails that student' motivation increases by being fully engaged in the new mode of learning; hence, they have a positive attitude towards DL. By contrast, a study conducted by ENSAM (*Ecole Nationale Superieur d'Arts et Metiers*) Casablanca on students' perception of DL shows that among the 741 participants, almost 80% of the students had a negative attitude towards the lesson material and virtual classroom activities (Ezzahid, 2020). In the same context, a qualitative study by Aziz Hantem (2020), where students from various faculties and higher institutes accorss Morocco were involved, shows that 83% of the informants had a negative attitude on DL because they could not concentrate on their studies.

3. Distance Learning and Assessment

While assessment in distance was slightly manageable at the level of higher education in Morocco, high schools were strictly against it. According to FNANCES NEWS (2020), the Ministry of Education Science Research and Vocational Training did not recommend distance assessment for college students until September 2020. As for high school students, safety measures were strictly at the heart of each instution to ensure students' well-being and assessment transparency. In fact, there is a scarcity of research on the relationship between distance learning and students' performance in exams. Most of the existing research is about college students. Thus, reference to a study by Elzainy et al., (2020) on students' experiences with e-learning and online assessment during covide-19 pandemic reflects the raise in students' responsibility and autonomy. Also, the study asserts that DL helps in raising students' critical thinking in exam situations. In this regard, Moroccan college students tend to have a positive attitude towards distance assessment whereas high school students are under-represented in the literature.

In short, the review of literature on the relationship between DL, students' attitude and assessment performance reveals that (1) it is compulsory to define and identify the concept of DL in order not to confuse it with other forms of online learning, (2) the review of the existing literature on the attitude of high school students towards DL during the pandemic is negative, (3) the gap in literature in field-related research –where high school students are under-represented – requires more investigation and field work.

METHODOLOGY

The following section presents the methodological procedures followed when conducting this research. With the intent to meet the formulated research objectives; (1) to investigate the students' attitudes towards distance learning in private high schools (2) to evaluate the impact of distance learning on students' assessments. This section sheds light on the research design adopted, the instruments of the research, the population sample & sampling techniques, the data analysis, and then it concludes with data discussion and recommendations.

DESIGN

In order to address the aforementioned research questions, the study adopt a mixed-method research design where both qualitative and quantitative research instruments are combined. The use of a mixed-method research design is perceived as a compelemtary approach for data collection and data analysis. Therefore, advocates of the mix-method approach claim that "beliefs from the qualitative aspect of a mixed methods research design can be combined with data from the quantitative side of the research to reach a belief statement about the existence of a finding from the qualitative study" (Curlette, 2006, p. 343).

INSTRUMENT

The study uses a close-ended survey for the collection of quantitative data. The survey is composed of 3 sections; the first deals with the demographic of the population, the second targets research question one on the students' attitudes towards distance learning, the third section targets research questions two on the impact of distance learning on students' assessment. As for the quanlitative data collection, the study deploys in-depth interviews with 12 students. The interview is structured in a way to align with the research objectives and questions; hence an interview guide was designed to set questions for the semi-structured interview.

POPULATIOM SAMPLE AND SAMPLING TECHNIQUES

The target population of the current research is high school students in 10th, 11th and 12th grade. The students are enrolled in three private schools in Rabat, Morocco. The target population shares the following common features: belonging to middle-to-high income families, having prior experience with online or distance learning and being involved in in-class assessment taking. To construct the sample for this research, snowball sampling technique was used because of the closure of schools and educational institutions. An online survey was shared with a few students and teachers, as seeds of the research (Browne, 2005). As for the student informants, the last question of the interview urged respondents to share their contact if they are voluntarily willing to share more insights on the topic under study.

DATA ANALYSIS PROCEDURE

For the quantitative part of this research, the respondents were asked a series of questions to ascertain many scales of the questionnaire. The "*Distance Learning & Students Attitude*", is used to measure the students' perception towards DL whereas other "*Distance Learning impact on students' assessment and performance*", measured the students' performance in in-class exams. The answers were then given in 5-point likert scale- strongly agree, agree, neutral, disagree, and strongly disagree. Respondent's information was promised to keep confidential.

Cronbach's alpha is a statistic frequently cited by many researchers to indicate the suitability of tests and scales developed or adopted for research initiatives (Taber, 2017). It is a regularly used metric in research to determine the dependability of individual factors. The structures' internal coherence was ensured by the greater Cronbach's alpha value. Cronbach's alpha coefficient was 0.916 for the measure used to assess students' attitude. On the other hand, the measure used to evaluate DL impact on students' assessment received an Alpha value of 0.938. Greater than 0.60 is considered a solid and reliable value.

As for the qualitative part of this research, the interview guide along with the piloting session yieled positive feedback on the validity and reliability of the study. The piloting phase revealed issues with question structure, unclarity of certain items and interview length which were all reviewed and adjusted before the beginning of the interview sessions.

The research was conducted following both qualitative and quantitative methodology. Quantitative methodology was applied to analyze the demographics along with identifying the attitudes the respondents have towards DL. Quanlitative

methodology was applied to gain deeper understanding of the respondents' responses through an analysis of their speech content the later was thematically analyzed and elaborated on. Descriptive statistics are used to provide insights on the students' responses.

DATA ANALYSIS AND INTERPRETATION

In order to gain a wide view of the population for this study, the following figure shows the males and females participation.
Figure 1. Gender distribution of the student respondents
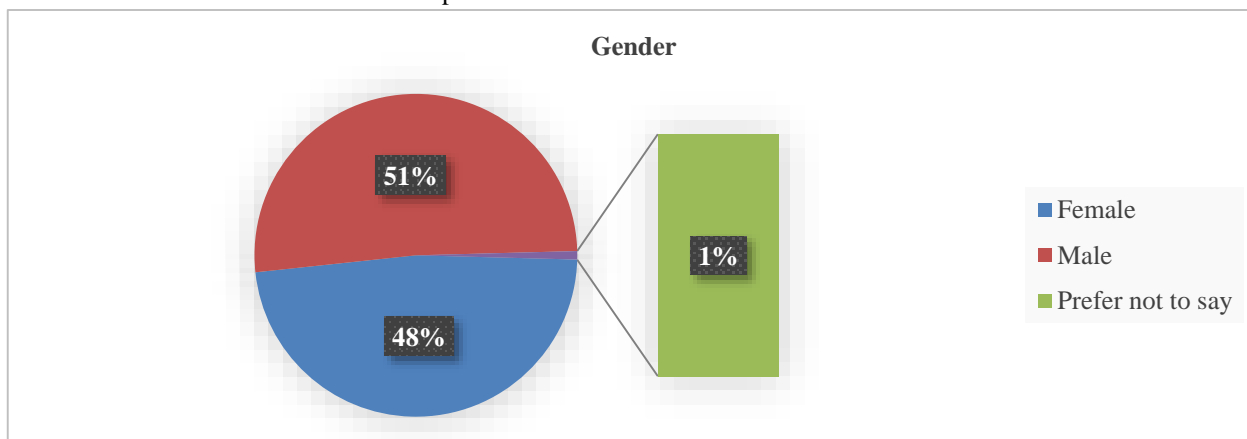
The figure above shows that more than half of the respondents (n = 61, 51.3%) are male respondents while the females representation is estimated at (n = 57, 47.9%). The distribution of the respondents by age shows that there is quite a balance between the two genders. Additionally, the respondents' demographics are further illustrated by the respondents' grade.

Figure 2. Respondents' Grade or Class Level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	12th Grade	85	71.5	71.5	83.2
	11th Grade	29	24.4	24.4	95.8
	10th Grade	5	4.1	4.1	100.0
	Total	119	100.0	100.0	

According to figure 2, more than half of the population sample (n= 85, 71.5%) are in their final year in high school, followed by (n = 29, 24.4%) in the first year baccalaureate (also known as 11th grade), while common core students (n = 5, 4.1%) or 10th graders are the least represented in the sample.

Figure 3. Platforms used for distance learning

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Zoom Platform	54	45.4	45.4	45.4
	Teams	32	26.9	26.9	72.3
	Google Hangouts	21	17.6	17.6	89.9
	Other	12	10.1	10.1	100.0
	Total	119	100.0	100.0	

The table above demonstrates that Zoom platform (n = 54, 45.4%) is typically used for distance learning by more than a half of the respondents, followed by Teams (n = 32, 26.9%) and Google Hangouts (n = 21, 17.6%), whereas other applications or platforms (n = 12, 10.1%) like WhatsApp, YouTube and Skype were used by some students.

DESCRIPTIVE ANALYSIS

The analysis of the students' survey on respondents' attitude towards DL and their attitude is displayed in figure 4. The survey questions from 3 to 10 are on Likert-scale with 1 indicating a Strong Disagreement (SDA) to 5 indicating a Strong Agreement (SA). The mean and standard deviation are presented to compare the differences in attitudes.

Figure 4. Group statistics of respondents' attitude towards DL

	Attitude towards DL (N - SDA)	N	Mean	Std. Deviation	Std. Error Mean
3. Learning in distance does not necessitate guidance from my teacher	Students with negative attitude	50	3.24	1.041	.147
	Students with neutrality	69	2.99	1.207	.145
4. It is easy for me to say that learning in distance is better than face-to-face learning	Students negative attitude	50	3.28	1.051	.149
	Students with neutrality	69	3.01	1.118	.135
5. I find learning in distance more rewarding at the level of learning pace	Students with neutrality	50	3.12	.982	.139
	Students negative attitude	69	2.97	1.294	.156
6. Learning in distance increases my isolation	Students negative attitude	50	2.84	.934	.132
	Students with neutrality	69	2.70	1.075	.129
7. I am often motivated to start class online	Students with neutrality	50	3.20	.756	.107
	Students negative attitude	69	2.86	1.141	.137
8. I feel engaged when I take lessons online or in distance	Students with neutrality	50	3.38	.901	.127
	Students negative attitude	69	2.94	1.069	.129
9. My productivity is at its best when I study online or in distance	Students with neutrality	50	3.18	.919	.130
	Students negative attitude	69	2.86	1.128	.136
10. Students' interaction is weak in distance learning	Students with neutrality	50	3.38	.901	.127
	Students negative attitude	69	2.84	1.052	.127

The mean scores for the questions on the "*Distance Learning inpact on students' assessment and performance*" are around 3 (Neutral) and 1 (Strongly Disagree). The analysis shows that the mean scores for the questions answered by the respondents who have a neutral attitude towards DL are around 3 while the mean scores for the questions answered by the respondents who have a negative attitude towards DL are around 1 indicating that respondents were likely dissatisfied with DL than those who were neutral.

Despite having a concentration of responses between neutrality and negativelty in the students' responses, the interview sessions provided interesting data. Findings from the research informants state that DL is quite interesting and rewarding. It is interesting because students have the opportunity to go back to the recorded sessions for more review and practice. This has often been referred to, by the informants, as "a bank of knowledge." Furthermore, students claim that DL allows them to explore new platforms like Zoom and Teams. For the majority of the interviewees, learning with the computer is a new journey in exploring the digital world. However, some interviewees show high level of consciousness and responsibility by stating that DL could have unsatisfactory results when their peers are hiding behind their screens playing video games or else. In brief, DL is a "good" alternative for traditional learning when students are responsible enough.

As for the other section of the survey, on the impact of DL on students' assessment, figure 5 displays the respondents' responses on the Likert-scale statements.

Figure 5. Group statistics of respondents' responses about the impact of DL on assessment

	Impact of DL on Students' Assessment	N	Mean	Std. Deviation	Std. Error Mean
11. Learning in distance has helped me prepare well for my exams	Students Disagreement	50	4.38	.667	.094
	Students Strong Disagreement	69	3.84	1.093	.132
12. My exam grades have been improved thanks to distance learning	Students Disagreement	50	4.16	.817	.116
	Students Strong Disagreement	69	3.80	1.079	.130
13. I feel ready for taking exams in class thanks to learning in distance	Students Disagreement	50	4.08	.804	.114
	Students Strong Disagreement	69	3.67	1.172	.141
14. Learning in distance does not prepare students for class exams the way they should	Students Strong Disagreement	50	4.12	.746	.106
	Students Disagreement	69	3.81	1.061	.128
15. I highly recommend distance learning for students to increase their grades in class exams	Students Strong Disagreement	50	3.96	.880	.124
	Students Disagreement	69	3.62	1.226	.148

The mean scores for the questions on "*The Impact of Distance Learning on students' assessment and performance*" are around 2 (Disagree) and 1 (Strongly Disagree). The analysis shows that the mean scores for the responses on the survey statements by the respondents who disagree are around 2 while the mean score for those who strongly disagree are around 1. Such results indicate that there is a total negativity towards DL impact on students' performance in assessment.

Data from the qualitative research instrument stands as a backup for those obtained from the students' survey responses. There is a general tendency in the interviewees' responses that DL does not lead to higher performance in face to face assessment. This is because school exams do not align with the virtual lesson design offered to them by their teachers. Also, some students claim that the psychological effect of Covid-19 on their well-being could be another reason for the inefficiency of DL for preparing them to take in-class exams. Furthermore, being "detached" from classroom settings "should" be seen as a major factor since students have not been attending classes for a long period of time.

DISCUSSION AND RECOMMENDATIONS

Findings of the study reveal that there is a significant relationship between DL and students' positive attitude. Similarly to the study by Draissi & Young (2020) which shows an increase in students' autonomy, the responses from the student interviews stress on the utility of DL as an alternative to traditional learning. It was claimed by the student informants that DL was not only an opportunity to ensure learning continuity but also to deepen their knowledge of ICT. Also, having a bank of recorded class material was perceived as a resourceful gain that DL provided them with. By contrast, the study by ENSAM School (Ezzahid, 2020) from Casablanca city revealed that students had a negative attitude towards DL due to the class material and virtual classroom activities.

Another interesting fact was identified from the latter study; there a proportion of students found it difficult to follow up when classes was online. Similarly, student informants in the current study pinpointed to the probability of losing concentration when classes are offered online. In this respect, students are requested to be responsible of their own learning behind their screens.

As for the impact of DL on students' assessment, findings of the current study unveil opposite directions from what the literature proposes. Although there is a gap in the literature on DL and students' assessment in high school, similar studies on college

students in Morocco show that DL served them better than what traditional learning could offer. For college students, DL was a tool to boost students' autonomy and motivation; whereas findings from both qualitative and quantitative data prove the ooposite. The participants in the current research assume that DL had negatively affected their exam grades. The findings reveal that the more students are engaged in DL the less they feel attached to their classes; hence, a form of blended-learning is called for.

The study concludes with a few recommendations in order to gain from DL as an alternative to traditional learning:

- Adopt hybrid-learning where both in-class and distance learning are balanced.
- Adapt classroom lessons, activities and assessments with DL mode.
- Explain to students and parents the procedures of DL so as to set prior goals for learners.
- Provide the necessary tools, lap-tops, tablets among other digital gadgets to ensure digital equity.
- Provide support to students in the form of brief trainings on how to use the platforms for DL
- Encourage group work in DL to reduce students' anxiety.
- Manage the virtual classrooms in a way to not exhaust students; especially that they are using their technological gadgets for learning, homework assignments and entertainment during the lockdown.

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