



ISSN Print: 2394-7500
ISSN Online: 2394-5869
Impact Factor: 5.2
IJAR 2020; 6(8): 07-11
www.allresearchjournal.com
Received: 06-06-2020
Accepted: 08-07-2020

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Distance learning during COVID-19 pandemic: opportunities and challenges for Moroccan public high school students

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DOI: <https://doi.org/10.22271/allresearch.2020.v6.i8a.6962>

Abstract

The outbreak of the Novel Coronavirus compelled countries and governments to declare emergency states in order to control the spread of the pandemic. In response to that outbreak, several measures were undertaken by the Moroccan government since the declaration of a state of emergency in the kingdom on March 20th, 2020. The implementation of urgent preventive policies also includes university and school closures to prevent teachers and students' infection. Consequently, distance learning replaced conventional classrooms to ensure the continuity of the lessons. As to many countries, the shift to online learning was not preceded by adequate strategies to guarantee a successful distance learning phase. Availability of educational technology, mastery of learning environment tools and teacher-student readiness to deal with the new teaching and learning procedures represent extraordinary challenges for Moroccan educational system. In this context, the present paper aims at analyzing challenges encountered by public high school students during distance learning experience. Those challenges are related to home situation, course and technology use, and distance learning platforms. It also sheds light on opportunities offered to students through online learning that allow them to improve their technical skills, enhance their learning abilities and promote their learning strategies. Despite the challenges encountered by high school students, the study reveals interesting opportunities which have made the students benefit from distance learning and created an urgent need to reconsider the national policy of ICT implementation in education.

Keywords: Distance learning, COVID-19, opportunities, challenges, students

1. Introduction

The global spread of COVID-19 poses a challenge to education landscape that practitioners and policy makers have not experienced since the emergence of on-line technology tools. It was declared "a public health emergency of international concern" by the International Regulations Emergency Committee of the World Health Organization on January 30th, 2020. The WHO declared less than 2 months later COVID-19 a pandemic. The latter has brought unprecedented educational disruption after school closures. The rapid spread of the virus forced thus organizations to set emergency plans and take precautions including border closures, travel restrictions and event cancellations. On the same basis, schools established similar precautionary measures to minimize the impact of COVID-19. On March 20th, 2020, Moroccan government declared a state of emergency and set sweeping measures in order to prevent and control the wide spread of the pandemic. Among the preventive measures, university and school closures, health quarantine, imperative social distancing, upgrading medical equipment and the compulsory wearing of protective masks. As the number of infections has increased, the emergency state is extended until August 10th.

As in many other countries, the closure of educational institutions in Morocco was undertaken as a preventive measure to protect teachers and students from the virus infection. The Ministry of education has decided to continue the teaching and learning process through distance learning in order to allow students to study at home. The implementation of distance learning strategy requires several procedures to make it effective and successful for both students and teachers. However, emergency distance learning imposed by the COVID-19 pandemic did not pave the way to the accomplishment of a successful distance learning experience. The transition from conventional classes to online classes was so abrupt that

neither the teachers nor the students were prepared to it. Therefore, educational institutions, teachers and students had to face many challenges in order to continue studying through online environment tools. Yet, the challenges have created interesting opportunities for distance learning enhancement.

In this context, this paper deals with the implementation of distance learning as a solution after school closures and tries to answer the following study question:

How did public high school students benefit from their distance learning experience during COVID-19 pandemic?

This question leads to two sub-questions

- What are the encountered challenges during distance learning phase?
- How does distance learning experience provide learning opportunities for students?

2. The evolution of distance learning

Distance learning or often called distance education as defined by Moore refers to “all forms of education in which all or most of the teaching is conducted in a different space than the learning” through communication technology (Moore Michael Graham, Anderson William G., 2003) ^[6]. With the advances in technology, “the term evolved to describe other forms of learning: online learning and e-learning”. Ellis holds the view that e-learning includes content and instructional methods using internet, intranet, CD-ROM as well as audio and videotape, interactive TV and satellite broadcast with more focus on interaction between the learner and the teacher (Moore, Joi L. *et al.* 2010). Other authors “call e-learning all forms of electronic supported learning and teaching” (Tavangarian Djamshid *et al.*, 2004) ^[9]. Additionally, online learning is described by most authors as access to learning experiences via the use of some technology. In our study, the term distance learning is used to refer to the learning experience during COVID-19 pandemic and the term online learning is used to refer to on-line available learning environments and tools.

Distance education in the early 1700s used to have the form of correspondence education through postal service. It has emerged as an alternative space for people who cannot attend a classroom (Kommers Piet, Isaias Pedro, 2018) ^[4]. The introduction of audiovisual tools at schools in the early 1900s boosted technology-based distance education. Furthermore, the emergence of online technologies and the use of internet contributed in the improvement of distance learning. The evolution of this concept and the advances in telecommunication technologies have allowed easy access to material and have made online education a new answer for lifelong education needs. In this perspective, secondary schools have largely benefited from university distance learning experience. Moreover, the increase in connectivity offers new opportunities to support distance learning for young people in many countries. In 2017, half of the world population use internet. In developing countries, the smartphone adoption rate is up to 65%. (Voogt Joke, 2018) ^[10]. Therefore, information and communication technology has become an incentive to a global educational reform encouraging to design and adopt new learning environments. In this context, the new digital technologies contribute in increasing learning flexibility and personalization with regards to space and time. In the last decade, “supported by open education resources and

Massive Online Open Courses, open learning has advanced, beyond higher education, into the primary and secondary sectors”. (Voogt Joke, 2018) ^[10].

2.1. Distance learning opportunities

Distance learning through online learning environments enhances self-learning opportunities. Most available online learning material is designed according to the constructivist philosophy. “constructivism has its roots in the constructivist movement of cognitive psychology, which posits that individuals gradually build their own understanding of the world through experience, maturation and interaction with the environment”, which is particularly relevant to a distance education setting (Rovai Alfred, 2009) ^[8]. Constructivist learning environments provide multiple representations of reality and emphasize knowledge construction instead of knowledge reproduction as well as authentic tasks in a meaningful context instead of abstract instruction. In this perspective, from the constructivist point of view the learner is viewed as an active processor of information. Moreover, interaction through effective communication is a key to effective learning.

Besides, learning environments available for distance learning can offer interesting opportunities to both learner and teacher who have an active role in the educational process. Those environments can maximize meaningful and reflective interaction and provide important feedback opportunities through monitoring students’ work and help them to promote their self-regulation and their responsibility for learning. Students learn better in a learner-centered environment that encourages self-assessment, personal reflection and self-expression. Thanks to technology-supported learning environments, the focus is more on the student as a learner, the learning process and learning environments. Through networking technologies, students work in communities and develop knowledge and skills. “Research now clearly shows that digital technologies can support students to engage collaboratively to become innovative and creative learners” (Voogt Joke, 2018) ^[10].

Moreover, synchronous and asynchronous learning offer interesting opportunities to students. Synchronous learning or real time learning includes many performance-based skills such as oral communication, real-time problem solving and software proficiency. It affords “opportunities to provide instruction and assess learner aptitudes in ways that are highly practical” (Finkelstein Jonathan, 2006) ^[2]. Besides, asynchronous learning contributes in increasing opportunities for reflecting on the learning experience and refining ideas. This is can be achieved through flexibility allowed by unrestricted access to course material and interaction possibilities in relation to material and offered opportunities for active learning through means of conferencing and collaborative learning tasks and activities. Distance learning has the power to bring people together for collaborative and reflective learning through asynchronous learning networks. Yet, it can also represent considerable challenges for practitioners, teachers and students.

2.2. Distance learning challenges

Literature review and recent studies dealing with distance learning challenges have grouped them into four main categories: (Anderson Annika, Gronlund Ake, 2009) ^[1]

- Course challenges: content, design, delivery

- Challenges related to the characteristics of the individual: students and teachers
- Technological challenges
- Cultural and societal challenges

2.2.1 Course related challenges

Course content is often raised as the most frequent challenge mentioned by practitioners and teachers. This content may include diverse activities, provide support functions and delivery mode of the course. The main issues related to content is curriculum. Recent studies have shed light on the development of new curricula which is mainly designed for distance learning setting. Also, the choice of pedagogical model affects the quality of learning. In this context, distance learning approach needs to be student-oriented offering more space for learning ownership and autonomy. In addition, interesting learning interactions as well as attractive activities improve students' motivation and engagement. These activities may include follow-ups, teachers' feedback and continuous assessments, and the students' choice to opt for group work or self-studies. Yet, some empirical works show that lack of social engagement and lack of feeling of involvement are often stated reasons for course interruption or dropping out. (Anderson Annika, Gronlund Ake, 2009)^[1].

2.2.2. Individual related challenges

These challenges are related to many factors. "The basic nature of online learning entails maintaining long-distance partnerships between teachers and students, who are usually separated by both distance and time", which may compromise the quality of learning (Wang, Victor, C.X, 2016)^[11]. Another factor is related to student retention and completion. Distance learning courses usually have higher attrition rates than face-to-face courses. This is due to their lack of self-directed learning abilities, their perceptions and lack of experience with the method of instruction.

2.2.3. Cultural and societal challenges

Computer mediated communication is void of social clues such as emotions, body language and facial expressions. The interaction between teachers and students is mainly task-based with less interpersonal communication. Moreover, digital technologies have psychological and emotional effects on the young learners as far as health and safety issues are concerned. "With the ease of creating anonymity and identity on the internet, cyber bullying is on the rise" (Voogt Joke, 2018, p.139)^[10]. Also, due to easy accessibility to internet, students are being exposed to inappropriate material and are more likely to develop addictive behaviors. Meanwhile, the issue of internet privacy has to be taken into consideration. In this context, practitioners and researchers urge for the development of policy guidelines to protect the access and use of personal data to avoid any intrusions of personal learning space (Voogt Joke, 2018)^[10]. Consequently, teachers can guide their students on how to use technologies in formal settings as well as in informal settings outside the school context.

2.2.4. Technology related challenges

Recently, there has been a significant increase in technology-related activities in schools. However, there is a digital divide in technology access. Only few students use digital technologies in some school subjects. The "recent

OECD (2015) report showed that even in countries such as China and South Korea where the computer and mobile device penetration rates topped the world, only 42% and 38% of the students in these countries, respectively, used computers in schools in 2011" (Voogt Joke, 2018)^[10]. Additionally, in developing countries, access to technology is very restricted due to the weak infrastructure. For instance, lack of electricity and lack of computers hinder students' access to distance learning.

3. Method and material

This study aims at analyzing the students' point of view of opportunities and challenges facing them during their distance learning experiences. The on-line survey adopted a quantitative research method through a self-filling questionnaire which was constructed through Google Forms. The 120 respondents are students belonging to many high schools in Agadir Idaoutanane delegation,

4. Results and discussion

The sample of the study is constituted of 70,4% females and 29,6% males. The age of the participant varies from 14 to 18 years as illustrated in figure 1.

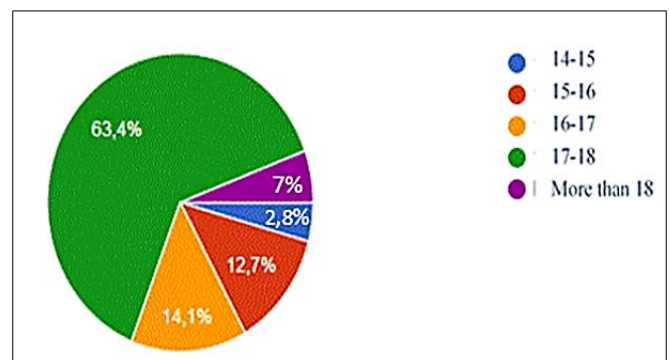


Fig 1: The participants' age groups

The participants' age is very significant in the analysis of students' motivation during distance learning phase. 63,4% of the respondents' age belongs to the 17-18 age group. This shows that 63% of the participants are second year baccalaureate students as they were more concerned with the preparation for the national baccalaureate exam since the questionnaire was sent to them three weeks before the national baccalaureate exam. According to online interviews conducted with some teachers, most of their students who are engaged in distance learning are second year students which is clearly demonstrated in some previous research studies regarding students' motivation for distance learning. For Knowles, Holton and Swanson, students are more "responsive to some external motivators" and "the most potent motivators are internal pressures" such as the desire to succeed, satisfaction and self-esteem (Rovai Alfred, 2009)^[8]. This leads to the discussion of opportunities and challenges reported through the participants answers.

4.1. Distance learning challenges reported by the participants

4.1.1. Home situation challenges

COVID-19 pandemic has overwhelmed people with much stress and considerable degree of fear due to school closures and other implemented emergency measures. Students as well as families were confused and anxious as to the new

measures and the quarantine' effects on people's lives including their daily activities and livelihoods. This psychological burden has considerably affected family situation at home. In this sense, 50,7% of the participants report to have quite fair conditions at home and only 7% have excellent home situation as illustrated in figure 2:

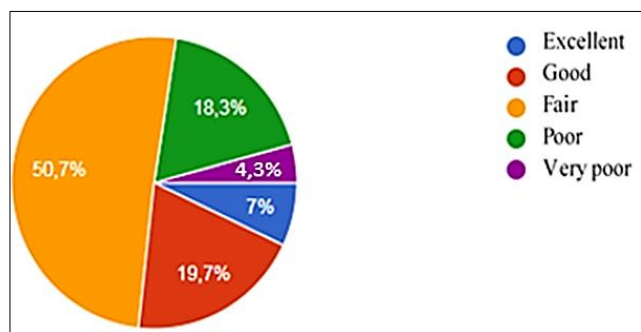


Fig 2: Home situation during distance learning

Distance learning is a real challenge for Moroccan families. Home situation contributes largely in a successful distance learning experience. "These conditions are very difficult to satisfy within a severe situation of fragility such as that now affecting the majority of Moroccan families. If these families can afford a technological device, these is no guarantee that all members of the family can have access to it, especially in those families that have more than one child" (Habiba Hafa, 2020) [3]. In this context, distance learning during the pandemic has widened the "gap between students who could continue their learning through accessing educational platforms, applications and software, and those who have no other choice except watching the two Moroccan channels: Arrabiaa and Arryadia" (Habiba Hafa, 2020) [3].

4.1.2. Technology and course related challenges

Effective distance learning is primarily attributed to availability of technology tools. During the pandemic and the total lockdown, the main concern of the families was to afford necessary technology devices for their children. According to the study, 90.1% of students have access to internet at home. However, 70.4% report to have internet problems and 33.8% could not pay for active internet connection or have an internet subscription. Moreover, 81.7% use their smartphones to study online and only 33.3% use their laptops. Yet, 22.5% use parents' smartphone or laptops to be able to follow live classes via different platforms. In this context, families with two or three children at school have to face "the challenge of trying to manage a situation in which children of different grade levels have to attend online courses at the same time" (Habiba Hafa, 2020) [3]. According to a study released by The Moroccan High Commission for Planning, 29% of students in rural areas do not follow online lessons at all compared to 13% of the students in urban areas (Mebtoul Taha) This is due, according to the same study, to their inability to have access to educational channels and platforms in addition to lack of interest and lack of help from parents or other family members.

In the same perspective, distance learning requires adequate online tools. On March 16th, 2020, the Ministry of Education in Morocco has undertaken several procedures to make lessons and educational content available for students

through TilmidTice platform and four television channels. Yet, many parents report their "medium" level of satisfaction of the provided lessons due to their lower educational quality. In our present study, only 14.1% of the respondents used TilmidTice. Other platforms that are commonly used are social networks. More than 84% of the students use WhatsApp since the majority of students use their smartphones as mentioned previously. 26% of the participants have access to lessons through live session on Facebook with a frequency of twice to 3 times a week. Distance learning instruction is provided through many online tools mainly through email exchange of PDF, WORD and PPT documents as reported by 63% of the participants. The use of other online techniques varies according to the mastery of ICT by the teachers (audio recording (31%), video recording (42.3%), Visio conferencing (21%). Despite the delivery modes implemented by the teachers, 40.8% of the students say that they are not satisfied with the quality of distance learning instruction. Despite the mentioned challenges, distance learning according to the study was beneficial to high school students.

4.2. Distance learning opportunities

Computer-supported learning environments have offered new learning possibilities to students during the COVID-19 pandemic. Distance learning can give the learners the possibility to manage the time and the pace of their learning. 56.3% of the respondents think that this new form of learning helps them to study at their own pace compared to conventional classrooms where students often have difficulties to cope with the pace of the lesson. Similarly, 56.4% of them think that distance learning was a good opportunity to learn how to manage time and to be responsible for their learning. 35.2% state that they have acquired a certain autonomy during their distance learning experience. Since the provided platforms by the Ministry of education are not sufficient to comprehend particular lessons, some students have to rely on their own knowledge about technology tools and soft skills. 67.6% declare to have learnt new software and applications including Zoom, Google Classroom, Microsoft Teams and Google meet. The findings corroborate with some research studies which claim that learners "learn technology, learn with technology and learn from technology" (Wang Victor, C.X 2016) [11]. In addition to improvement of technical skills, the respondents believe that distance learning provides opportunities to enhance peer collaboration, self-correction, peer-correction and self-reflection.

5. Conclusion

This paper examined the challenges and opportunities of distance learning imposed by the pandemic after school closures. The study revealed that transition from traditional classrooms to distance learning needs to be prepared in order to avoid inconveniences and failures. Despite the challenges, many students have benefited from the opportunities offered by distance learning and online tools. However, with limited financial support to schools, insufficient pedagogical training and unclear ICT implementation strategy, distance learning could not be a successful alternative for traditional classrooms. Although Moroccan educational system has gone through many reforms since the integration of technology tools in education, the COVID-19 pandemic has demonstrated

existing gaps and deficiencies related to distance learning particularly course and content design, new online learning pedagogies and the process of assessment and evaluation.

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