

# The Negative Impact of the Succession of Crises and the Ineffectiveness of the E-learning System on Tertiary Education in Sudan from (2018) to Present

Dr. Abdulghani Eissa Tour Mohammed<sup>1</sup>, Dr. Jamal Mohammed Ahmed Elfaki<sup>2</sup>, & Khalid Abdurrahman Jabir Othman<sup>1</sup>

<sup>1</sup>Department of English & Translation, College of Science & Arts, Ar Rass, Qassim University, Saudi Arabia

<sup>2</sup>Department of English Language, Preparatory Year Deanship. Alkharj, Riyadh, Prince Sattam Bin Abdul-Aziz University, K.S.A

Correspondence: Dr. Abdulghani Eissa Tour Mohammed, Department of English & Translation, College of Science & Arts, Ar Rass, Qassim University, Saudi Arabia. E-mail: aE.mohammed@qu.edu.sa

Received: January 2, 2023

Accepted: February 2, 2023

Online Published: February 2, 2023

doi:10.5430/wjel.v13n3p52

URL: <https://doi.org/10.5430/wjel.v13n3p52>

## Abstract

This study attempts to determine the social, economic, and psychological impacts of the 2018 temporary closure of educational institutions in Sudan amid several internal incidents and the ongoing closure due to the COVID-19 pandemic on students, teachers, and families. Most educational systems worldwide were temporarily closed and negatively affected. Nevertheless, it seemed as if the crises in Sudan extremely damaged the process of the overall educational system simply because the closure of the institutions initially began as a result of several internal incidents by the end of the academic year 2017-2018. The closure lasted until August 2019, when schools were reopened, and within almost six months; again, a decision was made in February 2020 for the entire closure of educational institutions due to the COVID-19 pandemic and continued for more than one and a half years. The impact of total closures of universities and colleges in Sudan affected students' academic achievement in different ways because the situations in Sudan were primarily different before the spread of COVID-19. Therefore, the negative implications of the long-term closure were greater not only on the students' academic achievement but also on the teachers' sources of income, which resulted in economic issues for many families. To undertake this study, both quantitative and qualitative research methodologies were used. The researchers designed and distributed a questionnaire to a sample of 39 Sudanese university teachers to examine their attitudes towards the impact of the several internal incidents behind the closure of the entire educational institutions on overall academic achievement and online education as an alternative to face-to-face or traditional teaching. Although very few universities launched e-learning units during the last two decades, it seemed as if their purposes were very limited and mainly designed to serve a few students under certain conditions. Additionally, the researchers observed the efficient application of the e-learning educational system during the COVID-19 pandemic, represented by the Blackboard platform at both Qassim University and Prince Sattam Bin Abdulaziz University. The data analysis resulted in some significant findings, among which are the following: First, students were regularly paying the price of the poor infrastructure that contributed to preventing the application of an effective e-learning system in Sudan. Second, the long-term closure throughout 2018 has resulted in the accumulation of several student batches and generally complicated the scene. Third, the long-term closure influenced university students in different ways: academically, socially, economically, and psychologically.

**Keywords:** temporary closure of universities and colleges, the overall difficulties, e-learning

## 1. Introduction

COVID-19 emerged as a serious global infectious disease that broke out almost all over the world. There was no medical treatment to prevent COVID-19, despite the ongoing research carried out by various research centers to confront the pandemic. To avoid spreading the contagious disease, several governments worldwide applied safety regulations that resulted in a complete closure, including educational institutions. The situation in Sudan regarding COVID-19 was not different compared to various other countries around the globe, as many cases were reported across the country. What complicated the status of education in Sudan academically, socially, and psychologically was that universities and colleges have already been closed for the last couple of years. Thus, in this study, the researchers are attempting to investigate the current social, economic, and psychological effects on the accumulation of multi-student batches at Sudanese universities due to the ongoing COVID-19 pandemic closure as well as the 2018 incident lockdown. Given that, the lockdown of educational institutions caused various problems when we consider the students' dropouts for almost more than two consecutive years due to several internal incidents. Accordingly, universities and colleges were closed, and the subsequent closure due to the COVID-19 pandemic doubled the harmful consequences socially, economically, and psychologically. The literature review discusses the negative impacts of the lockdown among educators, students, and families as well as its disadvantages in economic, social, and psychological aspects.

## 2. Literature Review

This section covers a vast literature review to determine the impact of the long-term lockdown on educational institutions, families, and the overall assessment of students. It also illustrates how the poor infrastructure in Sudan impeded the implementation of effective

e-learning education as an alternative to replace face-to-face teaching within the current conditions, particularly when we realize that e-learning challenges are common in developing countries, as confirmed by several studies conducted on its implementation and acceptance.

**a. The impact of the long-term lockdown on institutions, families, and the overall student**

One of the most important challenges for tertiary education during the outbreak of COVID-19 was the shift from face-to-face teaching to online classes. However, not all teaching staff had the capability to deal with this new mode of communication and technology (Lim, 2020). Moreover, the great shift from traditional classes to an online one may also encountered major problems such as a lack of computer devices (laptops, PC computers), and even when they were obtainable, these devices were occupied because everybody wanted to complete his or her work from home. Consequently, online teaching from home was difficult for faculty members as well as students. Furthermore, the poor internet network in many parts of Sudan was also a problem. Some areas had no access to the internet at all. In addition to these challenges, many universities had no access to online educational resources, Internet infrastructures, or online learning platforms (Dill E., Fischer K, McMurtrie B., et al., 2020). Therefore, courses such as science, medicine, and pharmacy could not be taught online because they required practical application in addition to theoretical teaching. On the other hand, time spent in school is extremely important which develop many valuable skills as well as social consciousness. From an educational point of view, the primary point of being in school is that it increases a child's ability to learn and acquire knowledge. Hence, a student who spends a relatively short time in school can achieve such meaningful goals; meanwhile, those who do not go to school have a narrow window of opportunity to acquire such skills. Several studies, showed how much school closures due to the outbreak of the COVID-19 pandemic affected learning. For instance, Carlsson et al. (2015) investigated the links between schooling and test scores, aiming to determine the overall role of schooling in the output of cognitive skills. They studied the case in which students in Sweden have various numbers of days to prepare for cognitive tests. The study shows that the results of comprehension tests (crystallized intelligence tests) were influenced by days of school attendance but not non-school days. These differences were conditionally random, allowing them to estimate the causal effect of schooling on cognitive skills. Their extrapolation consisted of ten days of extra schooling that significantly raises scores on cognitive tests (crystallized intelligence) by 1% of a standard deviation. When we applied the study's findings to the current situation of lockdown of schools due to the ongoing pandemic, three months without schooling meant a loss of 6% of a standard deviation, which is extremely influential in different terms to both students and their families as well. According to the study, there was no significant impact on problem-solving skills (an example of "fluid intelligence"). Finally, the researchers state that extending the school year can be beneficial for students and certainly enables them to acquire knowledge.

Another study conducted by Lavy (2015) assessed the effect of time that students spent in schools on learning across countries. Given that the time that children spend in school days differs from country to country, Lavy showed that the total weekly hours of instruction in Denmark were 55% higher than in Austria. Hence, these major differences in scholastic time had a great effect on students' achievements and their output on tests. The differences in instructional time were positively reflected by the test scores as follows: for every additional hour per week throughout the academic year, the test scores rose by around 6% of a standard deviation.

Concerning tertiary education in Saudi Arabia, the lockdown may have decreased the amount of study time that students spend learning. As a result, the standard deviation of the test scores might have correlated with a loss of an hour per week during the academic year. However, in Sudan, the impact of the lockdown was probably lower than the results of the above study simply because the closure decision was made in December 2018. The closure of the universities for a long period of time affected students' academic achievement and appears in their test scores, as stated by Lavy's (2015).

In this section, the researchers are attempting to determine the impact of the pandemic on families. Immediately after the total lockdown, children were sent back home in order to complete their courses online and prepare themselves for the final exams. Therefore, the responsibility of completing the entire course rested with families.

According to Bjorklund and Salvanes (2011), families are important factors in the educational achievement of their children. The practice of teaching children at home was globally accepted during this period of the pandemic and was seen by many as the most effective and positive way to complete courses. However, the role of the family was a supplement to what was learned at school. For instance, parents supported their children in completing their studies, including some arithmetic tasks (adding, subtracting, and solving basic equations). They introduced new vocabulary in a reading passage for a simplified literature version. Many parents successfully educated their children at home using plenty of online educational materials, but this task could not be generalized worldwide. Despite the fundamental differences between families in supporting children to learn at home, it seemed that homeschooling could not replace face-to-face education. These differences included time allocated to teaching at home, as many parents had their own jobs, whether online during the current lockdown or in a real-life situation (Oreopoulos et al. 2006).

Another important factor in this regard was the level of the parents' education and their ability to conduct lessons at home. It was hard to teach their children at home a subject that you did not study yourself. Additionally, not everyone had the tool to connect to online resources, and this was another key difference concerning accessibility to online resources. As a result, parents taught at home a little, usually at the primary education level; for example, they could teach their children the principles of counting, subtracting, adding, and solving simple mathematical problems, or they could explain some grammatical rules alongside geography and history subjects. Many parents successfully taught their children at home during the lockdown; on the contrary, others could not perform the same task of

schooling at home due to a lack of online devices and other economic factors. Thus, homeschooling played an important role during this period as a substitute source of learning and compensated for the amount of knowledge lost as a result of the schools' closure.

The worldwide closing of educational institutions also had an impact on the assessment period, as we witnessed the postponing of several exams in Sudan during the last academic year. For instance, universities already posted the final examination schedules as well as the dates of beginning of the new academic year. In addition, what worsened the situation were impediments associated with the use of online classes. To name some, the poor Internet connection as well as the unavailability of effective online learning platforms such as the Blackboard system which negatively impacted the process of continuous assessment. In spite of the widespread usage of technology for a long time in teaching, its effectiveness in the assessment task was under progress (Timmis S., Broadfoot P., Sutherland R., and Oldfield A. in *Br Educ Res J.* 2016). The dilemma for most of the educational institutions in Sudan is that courses were designed for face-to-face teaching, so it was difficult to either assess them or teach them online. Online assessment tools could not substitute for traditional exams in many universities and colleges as well. Thus, faculty members had to change their assessment criteria to fit the online assessment system. Nevertheless, the problem was how we could ensure that students were not cheating during online assignments or tests. Furthermore, some tests could not be delivered online; for example, tests connected to applied sciences that required labs and equipment for this purpose. Additionally, poor Internet facilities complicated the mission of many students while engaging in an online test or appropriate assessment, and this situation negatively impacted their results (Alruwais N., Wills G., and Wald M., 2018). The delaying of assessment, on the other hand, led to the improper evaluation of students' academic progress and learning difficulties. Andersen and Nielsen (2019) studied the situation of students who could not take the online test due to IT problems in Denmark. According to the study results, participating in the test after two years increased a student's score by 9% of the standard deviation in reading and mathematics.

To address the delay issues or cancel the assessment, Murphy and Wyness (2020) suggested using the "predicted grades," but these are often inaccurate simply because there was a difference between students' predicted grades, as they claimed. Another alternative was to use blind exams instead of teacher assessments, but the counter to this proposition was that it showed systematic deviations between the unblinded and blind exams and also displayed a bias associated with a group with high performance (Burgess and Greaves 2013, Rangvid 2015). When reflecting on the assessment's positive effect, the study found some advantages concerning students' professions in Norway. Moreover, the 1968 relinquishment of usual examination regulations in France (after the student riots) also led to a positive long-term effect concerning the intended group, as mentioned by Maurin and McNally (2008). Finally, since an online assessment was a new mode for both teachers and students, its consequences might largely affect educational certifications as well as their grade point averages (GPAs), which were used to sort applicants (Piopiunik et al. 2020). Moreover, the impact of lower grade points caused deficiencies in the qualifications of the applicants, which reflected completion on the labor market, leading to minimal earnings growth (Fredriksson et al. 2018).

Regarding international students, we can say that their enrollment has significantly risen during the last two decades in Sudan. The long-term closure of the educational institutions affected their movement into and from Sudan during vacation. As a consequence, their monthly allowances to meet the expenses of securing proper accommodation, food, and medication increased during this critical period of the pandemic. Furthermore, the pandemic also had an impact on the job market, and the greatest influence was felt by recent university graduates. Because they were likely to face major economic stagnation and poor market conditions, which forced them to accept lower job offers due to the global recession caused by the COVID-19 pandemic, this situation might not be applicable to all, as graduates with high qualifications could compensate for poor job earnings (Oreopoulos et al., 2012).

#### **b. The past and present of the e-learning in Sudan**

To address the root of Sudan's e-learning system, we have to take into consideration the infrastructure's crumbling during the last three decades, as represented in classroom shortages, frequent power outages, a lack of computer labs, and poor internet connections. Fatima R. Awad, et al. (2019), stated that as it's a poor African country, the mobile and internet population average in Sudan was very limited, though their accessibility was the fundamental in implementing the e-learning system at wider levels. In the figures, the authors found that due to rural areas of low population, such as desert zones, mobile phone users in Sudan are 62 per every 100 citizens, while the geographical coverage is only 33%. Additionally, the study reveals that 37 out of every 100 citizens used internet service. Thus, we think that challenges associated with basic infrastructure are particularly common at newly established universities found in various remote regions that were born from the ashes of long-standing secondary schools. As stated by Ahmed Salah (2010), since the launch of what has been known as the "high educational revolution" in Sudan during the 1990s, several institutions have acquired computers and internet access. The distribution of these digital devices included all secondary schools in the state with the announcement of computer material as school syllabus at both secondary and university levels in 2002. The literature review also shows that e-learning is accessible at some universities in Sudan. For instance, as the name suggests, the Open University of Sudan established an e-learning program in 2001, aiming to offer distance learning to those interested in pursuing tertiary education without mandatory face-to-face class attendance (Open University of Sudan, 2002). In 2003, the e-learning unit was opened and designed to assist at two different levels. First, it aims to run the following six divisions: educational web sites, live broadcasting (video conferencing), production of educational discs, virtual laboratories, and the electronic library. Second, the unit also serves the following support divisions: research, education, training, curricula, and modules. On the other hand, distance learning or online learning targeting postgraduate students is offered by the Sudan University of Science and Technology: [http://distance.sustech.edu/index.php/Deanship\\_of\\_Distance\\_Learning/en/home](http://distance.sustech.edu/index.php/Deanship_of_Distance_Learning/en/home).

Historical distance learning at Sudan University of Science and Technology goes back to the early 1990s, aimed at offering programs for bachelor students from the State of Qatar and the Arabic States, and was affiliated with the College of Technology and Human

Development. The program was developed at the same college, followed by the foundation of the department of distance learning in 2001, where three departments were included: the admissions and registration department, the department of curriculum and teaching, and the department of exams. To meet the increasing number of students' enrollments as well as the diversity of the programs, the Center for Distance Learning positively responded to the need to provide distance education programs for the vast majority of students, both internally and externally, in 2003. Recently, the deanship of distance education and e-learning was established in 2012 as a result of a workshop recommendation to meet the expansion in student enrollments and the diversity of the programs. Furthermore, as a natural extension of what has been known as a "higher education revolution" in Sudan, the Ministry of Higher Education established the Sudanese Universities Information Network (SUIN) in 2004. The network's establishment was an attempt to easily link several higher education institutions to each other so as to increase the sharing of information between them. Additionally, the network aims to launch a virtual library for Sudanese universities and provide information technology services such as video conferencing, e-learning, e-mail, etc. These modest models leave no doubt that the e-learning system in Sudan requires a great deal of development effort, as in some Gulf countries. For instance, the researchers have observed the efficient application of the e-learning management system "Blackboard" during the COVID-19 pandemic in Saudi Arabia, where the entire educational institution has been in operation throughout the pandemic. On the contrary, it seems as if decision-makers at the Ministry of Education need to give serious thought to an efficient application that facilitates the process of distance learning in times of crisis. A study conducted by Haysam A. Ali and Eltyeb E. Abed Elgabar (2014) suggested some measurements, including success factors, for adopting an effective implementation of e-learning in Sudan as follows:

- a. To make e-learning systems more convenient, institutions need to fully understand the requirements of the learners' needs and thus build a powerful application that addresses these needs.
- b. While assessing the usefulness of e-learning, students' satisfaction should be measured, as learners' fulfillment can have consequences based on whether they like to use the suggested systems or not. Consequently, the extent of student learning satisfaction in an e-learning environment plays a vital role in the implementation of e-learning or blended learning.
- c. It is extremely important for decision makers to learn that the accessibility of the information and communications technology (ICT) infrastructure reduces the cost of the application of e-learning. Hence, the above-mentioned problems arising from the poor infrastructure have resulted in the total closure of the educational institutions for nearly two consecutive years in Sudan. Therefore, we believe that the future trajectory of e-learning correlates with the infrastructure's development in the first place.

### 3. Statement of the Problem

The perturbation of the intense long-term closure due to COVID-19 was felt by many families around the world, as homeschooling was seen by many as a huge shock to parents' ambitions and students' social lives and learning as well. These worries remained unacceptably high in Sudan as the impact of the 2018 closure of the educational institutions amid several internal incidents on students' social lives and learning was great. In general, the above-mentioned worries were mainly based on factors such as difficulties encountered with online teaching on an unproven and unmatched scale and challenges of students' online continuous assessments with a lot of trial-and-error treatment and distrust for everyone. Sudan had witnessed such difficulties, with a slightly different scenario on the subject of dealing with the crisis. For instance, it seems as if the main reason behind the long-term closure is the fact that the Sudanese current transitional government has inherited a broken educational system—a system that suffered years of neglect amid low expenditures for effective education and was associated with poor telecommunication infrastructure as well as poor internet connection. These hindrances, taken together, made implementing the e-learning system impossible. With the exception of the Open University of Sudan (OUS) and some partial distance learning programs at certain institutions and universities, the literature review shows that the implementation of e-learning in Sudan requires a significant effort on the ground. It appears as if the poor infrastructure and the low income prevented thousands of students from carrying on their studies for almost two years simply because face-to-face education was impossible to be conducted due to the abovementioned factors. In contrast, the lack of e-learning or its ineffectiveness as a substitute for traditional classes when necessary complicated the scene and deprived students of the opportunity to make the best use of distance learning. In spite of the fact that very few universities have launched e-learning units during the last two decades, these units were designed for specific purposes and aimed at serving a few students under certain conditions. The delay of students put many families under severe pressure amid the current recession, and the deteriorating economic conditions in Sudan resulted in a decrease in the prices of fundamental commodities. Today, the assurances of the living costs require concerted efforts of any single family member, and students are not an exception to this equation; thus, their unjustified postponement increases the burden of the entire family. Junior students in particular will be socially and psychologically affected as the interruption contributed to problems such as finding job opportunities, establishing their own families, and the enrollment process in postgraduate programs that were all connected to graduating from college. Female students, on the other hand, would also find it difficult as the delay negatively influenced the achievement of their social dreams represented in constructing new families as the late graduation from the university delayed the age of marriage, which was more harmful to females compared to males. Additionally, many parents these days prefer their daughters to get married after finalizing their education, and any suspension might confuse their future plans. However, the authors strongly believe that these challenges could have been avoided or at least minimized in terms of their overall disadvantages by implementing an efficient e-learning system. Based on our own experience in Saudi Arabia, we can say that virtual classes ensured great effectiveness and simply replaced face-to-face classes when necessary. During the COVID-19 pandemic, the Saudi Ministry of Education adopted e-learning as a substitute for traditional face-to-face teaching. The results were

impressive despite the fact that there were some minor technical problems represented by the internet interruption due to the high pressure on the main platform, or the e-learning management system known as Blackboard.

#### 4. Study Questions

- a. To what extent did the long-term closure impact the overall educational system in Sudan?
- b. How did the poor infrastructure contribute to the ineffectiveness of implementing the e-learning system in most institutions?
- c. How were senior students and female students in particular influenced by the COVID-19 pandemic closure?

#### 5. Material and Methods

The data collection process is undertaken via both a quantitative and a qualitative research methodology. The researchers have designed and distributed a questionnaire of (15) items to a sample of (39) university professors. The aim of the questionnaire is to examine their attitudes towards the impact of the (2018) incidents in addition to the ongoing occurrence of the covid – 19 pandemic that resulted into the total closure of universities on the students’ overall academic achievement within the ineffectiveness of distance education due to the poor infrastructure associated with universities in Sudan. Additionally, the researchers have observed the efficient application of the e- learning management system “Blackboard” during the covid-19 pandemic at both Qassim and Prince Sattam Bin Abdulaziz Universities. As eyewitnesses, we can say that throughout the pandemic professors have successfully made the best usage of the Blackboard system to deliver online and recorded lectures to several groups of students across the Kingdom. Given, some minor difficulties such as the internet interruption have been encountered and then reported to the e- learning units to overcome them and indeed their responses have been great in addressing most of the challenges that were quickly proceeded. The questionnaire was an online one, which designed via Google drive application and distributed to numerous whatsApp groups of professors representing different universities in Sudan, public, private, central universities based in Khartoum, and peripheral universities across several regions. Among the participants are professors from Nyala, Neelain, Bahri, Alemam Almahdi, and the Academic of Engineering and Health Sciences universities. To analyse the required data as related to the research summary and findings, the authors split the (15) questionnaire items dispersed to the study subjects into three tables: (1,2,3) in addition to a chart: (1) which proves the statistical responses as well as the percentage of the participants’ replies on the individual items.

#### 6. Summary and Findings

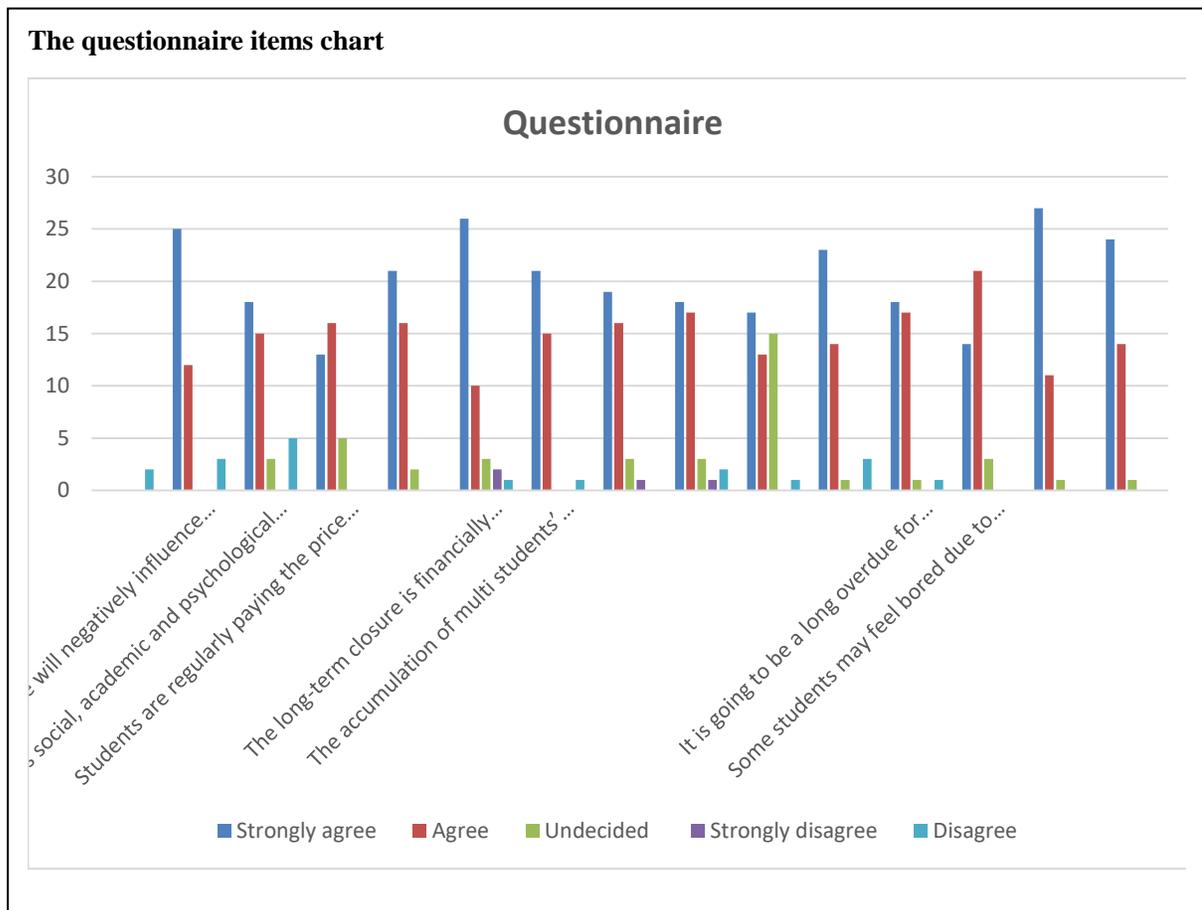


Chart 1. The study subjects’ responses on the questionnaire items no. (1-15)

The above chart illustrates the (39) study subjects’ responses towards the (15) items of the conducted questionnaire. As clearly stated, some items are strongly agreed- upon while others are either simply agreed or undecided. In the following tables, the researchers will briefly summarise and analyze the entire responses of the study subjects around the entire questionnaire items followed by a precise formulation of the conclusions and the necessary recommendations as well.

Table 1. The questionnaire items no. (1-5)

<b>1.</b> The accumulation of multi students’ batches confuses the overall educational system in Sudan.
<b>2.</b> The closure will negatively influence the labour market in the future trajectory.
<b>3.</b> It is the social, academic, and psychological impact on female students is greater compared to male students.
<b>4.</b> Students are regularly paying the price of the poor infrastructure in Sudan.
<b>5.</b> This pandemic raises the question of how important is distance learning.

As evidently indicated in the main chart, study subjects have effectively participated in determining their viewpoints towards the (15) questionnaire items. The statistical calculation displays their opinions towards the first item and confirms the negative academic impact of the closure on the overall educational system in the country. The influence was great on different terms (academically, socially, and psychologically) due to the fragility of the e- learning system as an alternative to the traditional classes, thus, the entire closure resulted into multi students’ batches in a mainly poor infrastructure environment connected with most universities in Sudan. For instance, (37) of the subjects or almost (94%) either strongly agreed or merely agreed with the fact that the closure of universities in Sudan amid several internal incidents in (2018), and the current lockdown due to covid -19 pandemic negatively influenced the overall educational system.

It is also found that, the long – term closure harmfully affects the labour market in the long run as affirmed by the study subjects. This questionnaire item is highly emphasized by almost (84%) of the participants who either strongly agreed or simply agreed with the item. Additionally, (29) of the study subjects also approved the great social impact of the closure on female students compared to male students as shown in the third item of the questionnaire. When we consider the role of women in family – construction, we can say that socially female students are much concerned with issues related to marriages immediately after leaving colleges and many parents favour the idea of post-graduation marriage for factors associated with the marriageable age for women. Thus, we can say that any postponement in female students’ graduation may destructively impact her wedding plans particularly when we consider the ageing influence on narrowing the opportunity of forming a new family for those college leavers compared to secondary school graduates. Furthermore, when reflecting on how students are regularly paying the price of the poor infrastructure allied with the most institutions in Sudan, the majority of the panelists have affirmed this reality as virtually (95%) of them either strongly agreed or simply agreed with the questionnaire item. Similarly, the same majority (95%) also believe that the schools closure caused by the spread of covid – 19 pandemic as well as the peaceful revolution of 2018 in Sudan, signified the importance of e-learning education as a resolution for the complexities of the scene right now and will pave the way for decision makers to avoid such challenges in the upcoming future. In the subsequent section, the researchers are going to display the panelists’ responses towards the questionnaire items (6-10) in knowing the participants various views on each element.

Table 2. The questionnaire items no. (6-10)

<b>6.</b> The long-term closure is financially costly to many families.
<b>7.</b> The accumulation of multi students’ batches creates professors’ shortages in most universities in Sudan.
<b>8.</b> Most universities will face shortages of laboratories as they try to meet the needs of applied sciences students.
<b>9.</b> Crash course methodology will be implemented at the end of the day as a resolution for the accumulation of students’ batches.
<b>10.</b> Most universities will face shortages of lecturing halls due to the accumulation of students’ batches.

Regarding item (7) in which the respondents highly reiterated that the cost of the closure on families is very high particularly on the working-class families who find it difficult to cover the unseen expenses and the living costs during this total lockdown. For instance, many of them have been forced by circumstances to allow their children to go outside and work as child labour. This item is almost confirmed by a high percentage of the study subjects that exceeded (89%). One good example to demonstrate this section is the case of the corresponding researcher’s three university students’ nephews who are currently working as construction workers amid the long – term closure of their institutions. The enrollment of two of them at college of engineering with minimum 5 years educational requirement and college of medicine with minimum 6 years educational requirement goes back to the academic year 2015- 2016 and were expected to be graduated during the academic years (2019- 2020) and (2020- 2021) respectively. However, still they are in level three although they are academically distinctive and their delay is totally out of control, thus, until now they are struggling to turn into junior students. The third case is the situation of the one who attended university during the academic year 2014 – 2015 and studies at college of education with minimum 5 years educational requirement. Although he is supposed to finish school during the academic 2019- 2020 but still in level three too. The dilemma is that their parents are below the poverty line though their father is a school teacher with the possibility of compulsory pension, but amid the recent salary increases, the instable inflation rate makes it difficult for him to secure a dignified life to a large and dispersed family within the continued increase of the fundamental commodities prices. As a result, whole family is forced to work including the younger sisters who support their mother as food venders around their home at one of the main refugee camps in the country. Now the closure is worsening the living condition of such families. For instance, it extended the dream of having their loved ones leaving colleges and support their parents at this tough time or at least rejoin the rest of the family members to reduce the unseen expenses. Therefore, many parents are still worried

about their future due to the expected accumulation of the students' batches which is going to accumulate the educational fees as well as the unseen expenses such as housing, living and transportations.

Unfortunately, there are other more worsening cases compared to the above – mentioned one, cases where parents are daily workers and amid this pandemic, their livelihoods have been interrupted, but still they have students enrolled at various colleges. So, implementation of e-learning is an ideal resolution for the continuation of education under such destructive situations which simply turns students into unemployed people. Given, the experiment of Ministry of Education in Saudi Arabia and most gulf countries in making the best usage of e-learning represented in the activation of the Blackboard platform can be referred to as a successful model. We can say that, amid the covid – 19 pandemic students have attended their courses online with unstated remarks in terms of the internet interruption that faced some students and professors during the first week of its application and as far as we were informed, the problems were caused by the huge number of students trying to login simultaneously. To overcome such challenges, e-learning at Qassim University where the corresponding author is working has provided effective pertaining online workshops throughout the second semester that have positively reduced the technical challenges and enabled professors as well as students to cover the entire exams without any difficulties.

Descending from the fact that several newly established universities were born from the ashes of some secondary schools and definitely face challenges concerning laboratories. The majority of the study subjects with a representative concluded by almost (89%) either strongly agreed or merely agreed with the item. Accordingly, shortages of laboratories within the accumulation of students' batches is undeniably problematic for applied sciences students as their specializations require more practical education than a theoretical one. Moreover, when the study subjects were asked to state their view points towards the implementation of crash courses as a resolution for the problem of the students' congestion, a considerable percentage of the participants exceeded (37%) simply undecided this questionnaire item. In terms of lack of lecturing halls, we can also say that predominantly of the panelists have responded positively as (94%) have affirmed the possibility of severe shortages in lecturing halls. And this approval ensured the strong connection between the poor infrastructure associated with numerous universities in the country and shortages of classrooms based on the accumulation of students' batches. In the following section, the authors are attempting to address the study subjects' viewpoints towards the questionnaire items (11-15) to know their individual opinions around each component.

Table 3. The questionnaire items no. (11-15)

<b>11.</b> Some private colleges and universities may loss vital sources of income owing to the decreasing of students' enrollment.
<b>12.</b> It is going to be a long overdue for those families who need assistant of their children after graduation.
<b>13.</b> Some students may feel bored due to the long- term closure.
<b>14.</b> Some parents will find it difficult to cover the study fees owing to the exchange rate instability.
<b>15.</b> The psychological effects on senior year students is greater compared to junior year students.

The study subjects also emphasized that decreasing of students' enrollment at colleges and universities certainly lead to loss of some vital sources of income simply because these institutions rely on students' fees in running the work wheel. As illustrated by table (3), almost (89%) subjects were either strongly agreed or basically agreed with the questionnaire item. Likewise, predominantly of the participants believe that it is going to be a long overdue for those families who need assistance of their children after graduation simply because the closure of the institutions still continuing and nobody knows how the crisis will finally end. This questionnaire item is reiterated by (89%) study subjects are spilt into two groups in which (35%) representing the first group strongly agreed with the questionnaire item while (53%) on behalf of the second group simply agreed with the item. Furthermore, the majority of the panelists positively confirmed that the long-term closure psychologically influences the students, and that is why some students may feel bored and get worried about their future plans because of the great delay associated with their graduations. The questionnaire item displaying this view point is affirmed by (97%) participants, in other words, almost all the study subjects either strongly agreed or simply agreed with item compared to only one participant who undecided the element. Due to the exchange rate instability and the continuous recession increase, majority of study subjects, (97%) in total believe that some parents will find it difficult to cover the study fees in a country where people have been witnessing escalating daily prices change and where doubling prices of fundamental commodities is common. Thus, parents descending from the working class certainly find it difficult to cover their basic needs and to sort out the schooling fees under such complicated conditions. Finally, it also found that the vast majority of the panelists virtually (92%) affirmed that as a result of the long – term closure of institutions the psychological effects on senior year students is greater compared to junior year students. Given, seniors are the most concern with graduation festivals so as to leave colleges and think about their future plans characterized in finding jobs, being enrolled as postgraduate students and most importantly constructing their own families.

E-learning was not implemented during the entire closure of the educational institutions in Sudan as these institutes are associated with poor infrastructure and it seems as if students are regularly paying the price of any unjustified delay. During conducting this research, a friend of mine and a former English teacher in Ministry of Education, Saudi Arabia, now a lecturer in English at a Private University based in Khartoum state consulted us over a suggestion made by his university council. The aim of consultation was to recommend a tangible distance-learning program that should work as a trigger by the English department throughout the university and lately it is going to be generalized. Over a telephone call, the researchers recommended to him the Microsoft team application. And to the best of our knowledge, this attempt might be the first to address distance learning as a resolution for the problem of the accumulation of students across the country

owing to the (2018) incidents as well as the recent closure due to the outbreak of the covid – 19 pandemic, but as the saying goes, coming late is much better than not showing up at all.

To sum up this section we can say that the overwhelming majority of the study subjects displayed their viewpoints positively towards the correlation between the long – term closure of universities in Sudan and the negative influence of the overall educational system. This assumption is based on the catastrophic failure of decision makers to implement e- learning system as a substitute for face to face traditional teaching. Therefore, it is found that students are regularly paying the price of the poor infrastructure in Sudan as almost (95%) of the participants affirmed this reality. Additionally, the study also emphasized that the total closure approached to two years, creates problems such as shortages of lecturing halls at the end of the day with expectation of the accumulation of students' batches. The majority of the panelists by about (97%) in total also positively confirmed that the long- term closure psychologically impacted the students, and that is why some students may feel bored and get worried about their future plans because of the great delay associated with their graduations. Furthermore, the participants strongly believe that due to the exchange rate instability and the continuous recession increases, parents from the working class will find it difficult to cover the study fees in a country where people have been witnessing daily prices change and doubling values of the fundamental commodities. Finally, the study showed that as a result of the long – term closure of institutions, the psychological effects on senior year students is greater compared to junior year students. This is true because seniors are mostly concerned with graduation to find themselves on a full-time basis to accomplish their future plans characterized in finding jobs, being enrolled as postgraduate students and constructing their own families.

## 7. Recommendations

- a. It is extremely important to implement an effective e- learning system at most educational institutions in Sudan.
- b. There is a vital need to design a self- running program that reinforce students' transformation of e- learning system.
- c. Both professors and students should be trained ahead to cope with distance learning programs.
- d. Rehabilitation of the poor infrastructure is required particularly at some newly established universities.

## 8. Conclusion

To conclude this section, the authors strongly believe that the poor infrastructure obstructed the application of the e -learning in most high educational institutions in Sudan. As a result, thousands of students were unable to continue their studies starting from the (2018) closure of institutions associated with several internal incidents, and amid the present pandemic of covid -19. This situation has destructively influenced students in different terms, socially, academically, and scholarly. For instance, the delay of students puts many families on living and social pressures. These burdens may increase within the current recession and the economic condition which resulted into increasing of the fundamental commodities. Hence, it seems as if providing a decent living today required concerted efforts of any single-family member and students are not an exception to this equation. Junior students in particular will socially and psychologically impacted as the delay connected to their graduating from colleges contributes to the daily problems categorized in finding job opportunities, establishing their own families, and the enrollment process in postgraduate programs. Female students on the other hand, will find it difficult since the delay negatively influences the achievement of a key social dream represented in marriage propose issue which is normally taking place after graduation as many families prefer their daughters to get married during this ideal marriageable age. Finally, we can say that these challenges could have been avoided or at least minimize their overall disadvantages via implementing an efficient e-learning system. Descending from the author's long teaching experience in Saudi Arabia, we can also say that virtual classes can ensure great effectiveness and simply replace face-to-face classes. A good example to prove this claim is the great reaction of the Saudi Ministry of Education during the covid – 19 pandemic in adopting an e-learning system as a substitute for traditional face-to-face teaching. Truly speaking, the results were impressive even though there were some minor technical problems such as the internet interruption due to the high pressure on the Blackboard platform.

## Acknowledgement

Researchers would like to thank the Deanship of Scientific Research, Qassim University for funding publication of this project.

## Author contributions

The corresponding Author: Abdulghani Eissa Tour Mohammed, conceived the original idea for the study, designed the research framework, conducted all interviews with participants for primary data collection, and wrote the abstract section.

Second Author: Jamal Mohammed Ahmed Elfaki, was responsible for conducting an extensive literature review, synthesizing relevant theories and previous research to contextualize the study findings.

Third Author: Khalid Abdurrahman Jabir Othman, significantly contributed to the interpretation of results, drawing connections between the findings and existing knowledge, formulated the conclusions, and performed a thorough proofreading of the entire manuscript to ensure language accuracy and coherence.

## References

- Ahmed, S. (2010). *The current status of e – Learning in Sudan*. ResearchGate, conference paper. Retrieved from [https://www.researchgate.net/publication/272491889\\_The\\_current\\_status\\_of\\_e-Learning\\_in\\_Sudan](https://www.researchgate.net/publication/272491889_The_current_status_of_e-Learning_in_Sudan)

- Alruwais, N., Wills, G., & Wald, M. (2018). Advantages and challenges of using eAssessment. *Int J Inf Educ Technol*, 8, 34-37. <https://doi.org/10.18178/ijiet.2018.8.1.1008>
- Andersen, S. C., & Nielsen, H. S. (2019). Learning from Performance Information. *Journal of Public Administration Research and Theory*. <https://doi.org/10.1093/jopart/muz036>
- Bjorklund, A., & Salvanes, K. (2011). Education and Family Background: Mechanisms and Policies. In E Hanushek, S Machin & L Woessmann (Eds.), *Handbook of the Economics of Education*, 3.
- Burgess, S., & E Greaves (2013). Test Scores, Subjective Assessment, and Stereotyping of Ethnic Minorities. *Journal of Labor Economics* 31(3), 535-576. <https://doi.org/10.1086/669340>
- Carlsson, M., G. B. Dahl, B. Öckert, & D. Rooth, (2015). The Effect of Schooling on Cognitive Skills. *Review of Economics and Statistics*, 97(3), 533-547. [https://doi.org/10.1162/REST\\_a\\_00501](https://doi.org/10.1162/REST_a_00501)
- Dill, E., Fischer, K., & McMurtrie, B. et al. (2020). *As coronavirus spreads, the decision to move classes online is the first step. What comes next?* Retrieved from <https://www.chronicle.com/article/As-Coronavirus-Spreads-the/248200> The Chronical of Higher Education.
- Fatima, R. A. et.al (2019). The Readiness of Countries for E-Learning with Special Focusing on the Sudanese Experience. *International Journal of Computer Science and Network Security*, 19(3).
- Fredriksson, P., L Hensvik, & O Nordström, S. (2018). Mismatch of Talent: Evidence on Match Quality, Entry Wages, and Job Mobility. *American Economic Review*, 108(11), 3303-38. <https://doi.org/10.1257/aer.20160848>
- Haysam, A. A., Eltyeb, E., Abed, E. (2014). Success Factors for Adopting E-learning Application in Sudan. *International Journal of Soft Computing and Engineering*, 3(6).
- Lavy, V (2015). Do Differences in Schools' Instruction Time Explain International Achievement Gaps? Evidence from Developed and Developing Countries. *Economic Journal*, 125. <https://doi.org/10.1111/eoj.12233>
- Lim, M. (2020). *The Educating despite the COVID-19 outbreak: lessons from Singapore*. Retrieved from <https://www.timeshighereducation.com/blog/educating-despite-covid-19-outbreak-lessons-singapore> Times Higher Education.
- Maurin, E., & S McNally (2008). Vive la revolution! Long-term educational returns of 1968 to the angry students. *Journal of Labor Economics*, 26(1), 1-33. <https://doi.org/10.1086/522071>
- Ministry of Education (Sudan). 2004
- Murphy, R., & G. Wyness, (2020). Minority Report: the impact of predicted grades on university admissions of disadvantaged groups. CEPEO Working Paper Series No 20-07 Centre for Education Policy and Equalising Opportunities, UCL Institute of Education Open University of Sudan, 2002. <https://doi.org/10.1080/09645292.2020.1761945>
- Oreopoulos, P., T von, W., & A Heisz, (2012). The Short- and Long-Term Career Effects of Graduating in a Recession. *American Economic Journal: Applied Economics*, 4(1), 1-29. <https://doi.org/10.1257/app.4.1.1>
- P. Vululleh, "Determinants of students'e-learning acceptance in developing countries: An approach based on Structural Equation Modeling (SEM)," *Int. J. Educ. Develop. Using ICT*, 14(1), 141-151.
- Piopiunik, M., G Schwerdt, L Simon, & L Woessman (2020). Skills, signals, and employability: An experimental investigation. *European Economic Review*, 123, 103374. <https://doi.org/10.1016/j.euroecorev.2020.103374>
- R. E. Clark, (1995). Media will never influence learning. *Educ. Technol., Res. Develop.*, 42(2), 21-29. <https://doi.org/10.1007/BF02299088>
- Rangvid, B. S. (2015). Systematic differences across evaluation schemes and educational choice. *Economics of Education Review*, 48, 41-55. <https://doi.org/10.1016/j.econedurev.2015.05.003>
- Sudan University of Science and Technology, deanship of distance learning [Online]. Available. Retrieved from [http://distance.sustech.edu/index.php/Deanship\\_of\\_Distance\\_Learning/en/home](http://distance.sustech.edu/index.php/Deanship_of_Distance_Learning/en/home)
- Supriyatno, T., Susilawati, S., & Hassan, A. (2020). E-learning development in improving students' critical thinking ability. *Cypriot Journal of Educational Sciences*, 15(5), 1099-1106. <https://doi.org/10.18844/cjes.v15i5.5154>
- Timmis, S., Broadfoot, P., Sutherland, R., & Oldfield, A. (2016). Rethinking assessment in a digital age: Opportunities, challenges and risks. *British Educational Research Journal*, 42(3), 454-476. <https://doi.org/10.1002/berj.3215>

## Copyrights

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/4.0/>).