



Effects of Covid-19 on Academic Performance: Analysis of Physics Students in Secondary Schools, Yola North, Adamawa State, Nigeria

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Abstract

The research was carried out with four objectives which include to: To examine the effects of Covid 19 on Students academic performance. Examine the extent to which Covid 19 affects students learning. The level of student's awareness on covid 19. The study adopted the descriptive survey design. The population of the study is made up of one hundred and fifty respondents who were selected from senior secondary school with Yola North Adamawa State. The instrument used for data collection is questionnaire. The data of the respondents was analyzed using simple percentage calculated form. The study revealed that the entire research question stated were found to be acceptable level based on the calculated grand mean of 2.50. The study concludes that going to school is the best public policy in developing skills and potentials of children, school time can be fun, even a relatively short time in school has a longer impact in the life of a child; a short period of missed school may have consequences for skill growth in future. This is why we cannot estimate how much the COVID-19 interruption will affect learning; it is only the visible effect we can see; the gradual decay of inbuilt abilities may not be easily noticed very precisely. The study recommended that: Federal government of Nigeria and policymakers to distribute electronic tablets preloaded with e-textbooks in these subject areas to students' and their teachers in order to facilitate online learning as this will enhance their performance in all subjects in this year's national examination. Students should add extra effort in

their studies in order to cover up what they lose during the pandemic. Adequate Covid 19 guidelines should be put in appropriate places in order to help in sensitizing the students.

Keywords: Covid-19, Academic, Performance, Physics Students, Secondary Schools

Introduction

The educational sector like any other sector has faced devastating experience as a result of corona virus which has impacted on its functionality, efficiency and effectiveness. The outbreak of COVID-19 pandemic across the globe has indeed caused far reaching negative effect on the educational sector and other sectors of the economy. Though, the pandemic was first reported in Wuhan City, China in December, 2019 it gradually spread across countries of the world. In Nigerian context, the first case of COVID-19 was an Italian citizen who returned from Milan, Italy to Lagos State. This was reported and confirmed by the Federal Ministry of Health in conjunction with Nigeria Center for Disease Control (NCDC) on 27th February, 2020 in Lagos State. Because of the wide spread, gruesomeness and devastating nature of the corona virus pandemic, governments of the world over were compelled to come up with several strategies on how to curtail the spread of the pandemic. Thus, as part of the Federal Government of Nigeria's overall strategy to contain the spread of the virus, the Federal Ministry

of Education on March 19th, 2020 issued a circular granting an approval for the closure of all schools, colleges, polytechnics and universities for a period of one month commencing from Monday 23rd March, 2020. However, as a result of the increasing cases of corona virus cases in Nigeria, schools at all levels have remained closed for months Jacob, (2020).

According to UNESCO (2020), the action of governments globally to temporary close educational institutions in order to contain the dreaded COVID-19 pandemic is no longer news and is most expected. The decision of school closure was prompted by the principle that large gathering of persons constitutes a serious risk to safeguarding public health during a pandemic. Though no one knows for sure how long the closure of schools is likely to last but one can easily anticipate that date will be extended until the pandemic subsides. The impact of COVID-19 pandemic on school closure generally and secondary school student in specificity cannot be over accentuated.

For the students, the most immediate impact has naturally been the temporary cessation of the face to face teaching and learning. The globally temporary cessation of face- to- face learning activities in schools has been a huge disruptor of the functions of the educational system. This disruption is highly variable and depends, first, on their ability to remain active in their academic activities and second, on their financial sustainability. In the event of a long duration of the cessation of face-to-face activities, it is most likely that there will be a decline in demand in the short term and a spike in the next academic year with fees non-existence or very affordable. As for those who are about to exit upper secondary and aspire to enter higher education, the situation is quite pathetic. They will have no clear idea of how long they will have to wait again. In the view of Enders (2016) and Lazarus, (2017) educational institutions provide essential learning activities to the learners and when school activities are disrupted resulting in their closure, students are deprived opportunities of social, cognitive and psychomotor growth and development with the period affecting them even beyond the period of closure. Lazarus also admits that the closure of schools disrupts the well-planned and articulated academic calendar and activities which were supposed to have been covered within the specified period. Thus, the disruption results in delay in the graduation of students at all levels. Enders further states this there could decline the learning ability of students from poor homes; as their parents may not afford to provide them with lesson teachers or engage them in e-learning platform or strategy. Closing the school system can encourage students to take to gangsterism, crime and drugs. They could also keep bad companies as their parents may not have good monitoring approach on them. The accumulation of financial cost for parents may affect students from poor economic background because their parents may be unable to pay the accumulated fees and other levies thereby resulting in high rate of school dropout. COVID-19 pandemic has affected all levels of the education system (Nicola et al, 2020). Educational institutions around the world (in 192 countries) have either temporarily closed or implemented localized closures affecting about 1.7 billion student populations worldwide (UNESCO 2020). Many schools around the world either postponed or canceled all school activities to minimize gatherings and hence decrease the transmission of the virus. However, these measures lead to higher economical, medical, and social implications on both Secondary schools and undergraduate communities (Boateng et al, 2020). Nigeria is an exception, the COVID 19 pandemic has greatly affected the schools system generally where a whole has been in the academic year which leads to students massive failure in external examinations like WAEC, NECO and Jamb respectively. Many students failed in some of the major subject in (WAEC and NECO) examinations such as English language mathematics, physics and chemistry and it is as a result of long stay at home and cancelation of third

term where students missed a lot of topics from their designed curriculum. In JAMB Examinations students failed poorly in the JAMB examination during the academic session this is also as a result of the Covid 19 pandemic.

The loss of this information delays the recognition of both high potential and learning difficulties and can have harmful long-term consequences on the child (Burgess, et al 2020). According to Clement (2020), the lockdown of schools not only affects internal assessments but also affects external assessment in examinations such as West African Examination Council (WAEC), National Examination Council (NECO), General Certificate on Education (GCE), National Business and Technical Education Board (NABTEB) and Joint Admission and Matriculation Board (JAMB). It is against this background that this study looks into the Corona (Covid 19) and the Academic Achievement of Secondary School Students in Yola North L.G.A. of Adamawa State.

Background of the Study

The importance of education to human development has been well documented, highlighting the catalytic roles of education in national and human capital developments (Saha, 2016). Education is a means of self-development through learning, knowledge, skills, and habits conveyed across generations. The importance of education for the economic, social and moral development of nations cannot be under-estimated. It is of significant concern that education at all levels has been threatened since the emergence of the novel coronavirus disease 2019 (COVID-19). The coronavirus disease is a highly infectious disease that has plagued the world population over the months from December 2019 till date. The disease spread through droplets (World Health Organization, 2020) and has affected more than 9.1 million persons, and resulted in about 473,000 deaths worldwide (Aljazeera News, 2020) as at the time of writing this paper. As a result, countries have relied on several containment measures, including a range of physical and social distancing measures to flatten the epidemiological curve and avert morbidity and mortality due to COVID-19 (Jacob, *et al.*, 2020).

Different countries have engaged in various measures to implement physical distancing, such as complete closure of the economy, including educational institutions (Nicola, *et al.*, 2020; UNESCO, 2020). The pandemic is affecting all levels of the education system, from pre-school to higher education, in a manner that is of irreparable educational and economic implications (Lindzon, 2020). For instance, a four-week school closure in New York City translated to an economic impact of about \$10.6 and \$47.1 billion (Lindzon, 2020). A 12-week nationwide school closure cost 1% of GDP (Araz, *et al.*, 2012), while protracted closures could cost 3% of UK GDP (Keogh-Brown et al., 2010). Though school closure is intended to control the spread of the virus within schools, prevent carriage to other vulnerable individuals,

and sustain public health, these closures have had widespread socioeconomic impacts (Lindzon, 2020). Furthermore, the far-reaching effects of social/physical distancing and the associated lockdown measures, as well as school closures, have thwarted the education sector and are expected to leave an indelible mark on the education system Blankchart, B. & Quah, F.F (1989) and Praghlapati, (2020). Over 188 out of 195 countries have been implementing nationwide school closures and restricted education facilities (Nicola et al., 2020). It is estimated that more than 1,576, 021, 858, which constitute about 91.3% of all the learners across the globe, have been affected by the closure of educational institutions (Fong, *et al.*, 2020; Nicola, *et al.*,2020; Uddington, 2008; Brown, *et al.*,2011; UNESCO, 2020). Apart from the impact on learners, school closures have high economic, health and social costs.

Timely responses have been in place in most countries, such as Australia, Italy, Germany, Hong Kong, with regard to online learning before the pandemic (Zhu, *et al.*, 2020). Yet, researchers have shown that the pandemic has posed significant challenges to education in such countries (Iyer et al., 2020). Hence, it is expected that the pandemic would have a more adverse effect on schools that had no online learning platforms before the pandemic Muhammad, A. A 2021) pointed out that the indirect effects of the pandemic include disrupted schooling and lack of access to school, more especially in low and medium-income countries.

In low and medium-income countries, the impact of COVID-19 is particularly threatening to education given that education systems have been working on substandard platforms (Wang, C. & Hou, D. 2004). It is also challenging in overcrowded resource constrained schools in these regions to provide a safe learning environment for students (Zar *et al.*, 2020). The pandemic has a peculiar dissipating impact on education in Africa and other countries through decreased level of education, broadened existing divide in learning access and outcomes and increased school dropouts. In Nigeria, the threat posed to education is compounded due to peculiar vulnerabilities, including poor health systems, poverty and inequality, hunger, internally displaced populations, high population densities, urban-rural divide and out-of-school population (Asongu, E. & Biekpe, O. (2017) KPMG, 2020). Prior to COVID-19, Nigeria accounts for one in every five of the world's out-of-school children. About 10.5 million children aged 5-14 years in Nigeria were out of school, and only about 61 % of 6 to 11-year-old children receive primary school education on a regular basis (UNICEF Nigeria). Hence, while Nigeria is battling with underlying educational challenges that have kept the country behind in getting young people ready for the dynamic workplace COVID-19 impacts further exacerbate this problem.

Following the COVID-19 pandemic, all schools in Nigeria were closed from March 27, 2020, as one of the Federal Government measures to limit the spread of the disease. This translated to a contextualized state-wide school closure across the 36 states in the

country. In response, different states' Ministries of Education have been releasing modalities for radio and TV schooling and internet-based learning for students in public primary and secondary schools. Though these efforts could be effective, with experience from developed countries, it can amount to a far-reaching negative impact on the education system in developing low-income countries like Nigeria (Boissay, O., & Rungchroekitkul, S. 2020). For instance, as the COVID-19 pandemic is revolutionizing digital and online education globally, primary and secondary school learners in rural and under-served communities remain behind due to lack of skills and resources to adapt or transition to the new learning avenues. In addition, university students who may have the skills to undertake internet-based learning face poor internet infrastructure and a lack of reliable electricity supplies (Muhammad, A. A, 2021). Thus, learning remotely (including radio, TV schooling, and online learning apps for primary and secondary learners, virtual libraries and online classes in the universities) is practically not feasible in most Nigerian communities.

Poorly resourced institutions and socially disadvantaged learners where limited access to technology and the internet, as well as students' inability to engage in an online environment, undermine Government response (Zhong, 2020). Found that the pandemic has impacted education in three major ways, including missed learning for the majority of the pre-pandemic students, loss of access to vital school-provided services and leaving more kids behind. Thus, these impacts are likely to widen the gaps in education quality and socioeconomic equality following the school closures in the country. This is because a lesser percentage of learners who are in the urban areas, who are likely to hail from higher-income families, stand more chance to access education during school closure through technology (Boissay, O., & Rungchroekitkul, S. 2020), leaving behind the majority of learners from poor homes and underserved rural and suburban areas of the country (Zhong, 2020). Apart from this, learners in schools that lack the resources or capacity to transition to online delivery are currently missing learning (Leung; S., 2020).

Learning within the homes could also be a challenge or present challenges for learning. Such depends on parents' educational attainment and other commitments, leaving a greater percentage of the learners' population behind. These problems constitute considerable concerns from all stakeholders in education (Jegede., 2020 & Muhammad, A. A, 2021). Hence, even though most states in the country are currently responding through radio and television, a good fraction of the learners are still experiencing some challenges in their education. Further, to the best of researchers' knowledge, no study has investigated the impact of COVID-19 on education with particular reference to primary and secondary schools based on perspectives of education stakeholders (educators, parents and learners) in Nigeria. Therefore, this study relied on stakeholders' views to deconstruct the educational challenges posed by

COVID-19 and how those challenges have impacted education and learning in primary and secondary schools.

A study of this type is timely and valuable as schools are planning to reopen across the nation. It will call the attention of the government and the examination bodies, and all stakeholders to the harm already caused by the school closures. This may be useful for planning education post-pandemic period and inform policy and practice of education. It is expected that the outcomes of this study will guide teachers and schools as schools reopen.

Statement of the Problem

When schools were in session, prior to Covid 19, students tend to be constantly engaged in learning activities and enjoyed face to face interaction with their teachers and fellow students; this led to a developed cognitive, affective and psycho-motive domains in the learners. However, as a result of the outbreak of COVID-19 pandemic, schools were temporarily closed for months disrupting teaching and learning in schools. This disruption forced some students to take to bad company, indulge in drugs taking and reduce the tendency to actively engage in learning. Non-engagement of students in active learning will be more pronounced among children whose parents have limited resources to get lessons from teachers or enroll them in e-learning. Some children may be forced by their parents into child labour. (Victor 2020) states that students themselves are faced with isolation, anxiety about a deadly virus and uncertainty about the future. Students are likely to enter school with more variability in their academic skills than under normal circumstances. With this development, schools' calendars changed and students missed so much knowledge of the syllabus that was lost out to Covid 19. Obviously, it has affected grossly the performance of Senior Students in Nigeria and specifically in Yola North a rural community where most of the secondary schools could not resume on time. This paper aims to investigate the effects of Covid-19 on students' academic performance of Physics Students in senior secondary schools in Yola North a rural community State, Nigeria.

The Aim of the Research

This research aimed at analyzing the effect of Covid-19 on academic performance of physics students in secondary schools in Yola North LGA in Adamawa State

Objectives of the Research

1. To find out the effect of Corona virus on academic performance of Physics senior secondary school student in Yola North
2. Determine the extent to which Corona Virus affects students' learning of Physics in Senior Secondary Schools in Yola North L.G.A.

3. To suggest possible way of continue with schooling under pandemic situation.

Research Questions:

The study answered the following questions:

1. What are the effects of Corona virus on Students academic performance of Physics in Senior Secondary Schools in Yola North L.G.A.?
2. Does Corona Virus affect students learn of Physics in Senior Secondary Schools in Yola North L.G.A.?
3. How do people continue with schooling under pandemic situation?

Research Design

The study adopted the descriptive survey design. The population of the study is made up of one hundred respondents. This samples size was arrived at by using stratified sampling technique. The instrument used for data collection in this study is questionnaire. The data of the respondents was analyzed using simple mean and standard deviation.

Results and Discussion

Research Question One: What are the effects of Corona virus on Students academic performance of Physics in Senior Secondary Schools in Yola North L.G.A.?

Table 1: Mean response students on effects of Corona virus on academic performance in Senior Secondary Schools

| S/N | ITEM | MEAN | REMARKS |
|-----|--|------|-----------|
| 1. | Did Corona virus affect your way of remembering what you learn? | 2.57 | Agreed |
| 2. | Are some of your colleagues aware on the effect of Covid 19 on their academic performance? | 2.36 | Disagreed |
| 3. | Do you think there is possibility of you having higher result than before? | 2.98 | Agreed |
| 4. | Do you think your terminal result will be lower than before? | 2.32 | Disagreed |
| 5. | Did Corona virus improve the way you like schooling? | 2.85 | Agreed |
| 6. | Did Corona Virus influence your writing skills? | 2.62 | Agreed |
| | Grand Mean | 2.61 | Agreed |

Source: Researchers finding analysis

Table one above showed the response obtained from student effects of Corona virus on academic performance. The respondents agreed that Corona virus affect the way of remembering what they learned previously. While some students are aware that Covid 19 pandemic will not affect their academic performance because the mean score is less

than 2.50 which is the cut-off point. Based on the calculated grand mean of 2.61 obtained. It showed that Corona virus affect students' academic performance.

Research Question Two: Determine the extent to which Corona Virus affect students learning of Physics in Senior Secondary Schools in Yola North L.G.A.

Table 2: Mean response of students on extend to which Corona Virus affect their learning in Senior Secondary Schools.

| S/N | ITEM | Mean | Remarks |
|-----|---|------|-----------|
| 1 | Do all your friends encourage you to study as a result of corona virus? | 3.24 | Agreed |
| 2 | Do your colleagues put more seriousness in their studies than before? | 2.36 | Disagreed |
| 3 | Do you think the experience of pandemic can make you to pick up quickly? | 3.53 | Agreed |
| 4 | Does your teachers understand the effect of pandemic in your performance? | 3.52 | Agreed |
| 5 | Does Corona virus change your attitude towards schooling? | 3.31 | Agreed |
| | Grand Mean | 3.19 | Agreed |

Source: Researchers finding analysis

Table 2 above showed the mean response of student for extend to which Corona virus hindering their learning activities. The respondent agreed with item 1,2,3 and 5 on table two because the mean responses of each item is greater than the cut-off point of 2.50 which showed that the grand mean of 3.19 indicates that the respondent agreed with the question that it effect of Covid 19 posed a seriously treats in their learning activities.

Question 3: How do people continue with schooling under pandemic situation?

Table 3: Mean response on how do people continue with schooling under pandemic situation

| S/N | ITEM | Mean | Remarks |
|-----|---|------|---------|
| 1 | Do you organize group reading in order to improve your learning? | 4.24 | Agreed |
| 2 | Do you have personal time table in order to develop your reading habit? | 2.99 | Agreed |
| 3 | Do you read your books regularly more than before? | 3.53 | Agreed |

| | | | |
|---|--|------|--------|
| 4 | Do the teachers give you extra work than before? | 3.52 | Agreed |
| | Grand Mean | 3.32 | |

Source: Researchers finding analysis

The results in table 3 above shows that majority of the respondent agreed with item 2 to 4 that personal time table, regular reading of book and extra lesson given by the teacher will help to improved their learning activities as the mean score of 2.99, 3.53 and 3.52 respectively. Also the table shows with a mean score of 4.24 that group reading will help the students to improve on their learning during the lock down as a result of Covid 19 pandemic.

Discussion of the Major Findings

The data obtained from the survey were summarized in tables showing the number of respondents and relevant percentages. From those summaries a number of interesting findings were made these are: The respondents disagreed that Corona virus affect their way of remembering what he/she learn. The respondents agreed that some of their colleagues aware on the effect of Covid 19 on their academic performance. The respondents disagreed that you think there is possibility of you having higher results than before. The respondents agreed that their terminal results will be lower than before. The respondents agreed that Corona Virus pandemic make them to like schooling. The respondents agreed that Corona virus influence the writing skills this finding are in line with Hueng, (2006). The respondents agreed that all your friends encourage you to study as a result of Corona virus. The respondents agreed that your colleagues see study as important as before. The respondents disagreed that your colleagues put more seriousness in their studies than before. The respondents disagreed that they think the experience of pandemic can make them to pick up quickly. The respondents agreed that their teachers understand the effect of pandemic in their performance tgis finding are in agreement with (Zhong, 2020). The respondents agreed that Corona virus change their attitude towards schooling. The respondents agreed that they organize group reading in order to improve their learning during Covid 19. The respondents agreed that they s have personal time table in order to develop reading habit during Covid 19. The respondents agreed that they read their books regularly more than before during Covid 19. The respondents agreed that the lecturers give extra work than before (Zhong, 2020).

Conclusions

Based on the findings of this study, going to school is the best public policy tool available to develop skills and potentials, school time can be fun, and from an economic point of view the primary point of being in school is that it increases a child's

ability to become a useful and acceptable member of the society. Even a relatively short time in school has a longer impact in the life of a child; a short period of missed school may have consequences for skill growth in future. This is why we cannot estimate how much the COVID-19 interruption will affect learning; it is only the visible effect we can see; the gradual decay of inbuilt abilities may not be easily noticed very precisely.

Recommendations

1. Based on the findings, it was recommended that: Federal government of Nigeria and policymakers to distribute electronic tablets preloaded with e-textbooks in these subject areas to students' and their teachers' in order to facilitate online learning as this will enhance their performance in all subjects in this year's national examination.
2. Teachers should simplify their method of evaluation in order to consider the students long stay at home. Students should add extra effort in their studies in order to cover up what they lose during the pandemic.
3. Adequate Covid 19 guidelines should be put in appropriate places in order to help in sensitizing the students. Social distancing during lectures and the use of face shield should be compulsory to both staff and students within the school premises.

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