

EFFECT OF COVID -19 PANDEMIC GUIDELINES ON ACADEMIC DISRUPTION: MARKETING IMPLICATIONS

Dr. Ann Ikechi

Department of Marketing, Abia State Polytechnic, Aba / Email: ann_ikechi@yahoo.com

Dr. Grace Uloego Nwansi

Department of Banking and Finance, Federal Polytechnic Owerri, Imo State

Otobo Perearau

Department of Business Education, Isaac Jasper Boro College Of Education, Sagbama, Bayelsa State

ABSTRACT

The education sector was heated up when stakeholders assumed different positions on school resumption. The different positions were to keep locking down till such a time when it would be deemed safe for students to resume, or open up schools and insist on observance of Covid-19 guidelines. To help take this decision, this paper looked at the effect of Covid-19 guidelines on academic disruption. To this end, four hypotheses were formulated and subsequently tested. The survey was done with the aid of a four point Likert scale questionnaire comprising twenty four statements covering the independent variables (lockdown, wearing of face masks, maintenance of social/physical distancing, and regular hand washing) and the dependent variable (disruption of academic activities). Copies of this questionnaire were administered on 246 persons spread all over the country via WhatsApp to avoid physical contact with persons during this period of Covid-19. Regression analysis results revealed that lockdown of students significantly disrupted academic activities, e-learning notwithstanding. With respect to school resumption and observance of Covid-19 protocols, it was found that both wearing of face masks and maintenance of social/physical distancing did not have significant effect on disruption of academic activities. However, regular hand washing was found to have contributed significantly to disruption of academic activities. Consequently, the paper recommended that governments should reopen tertiary institutions, while insisting on strict adherence to Covid-19 protocols. Since regular hand-washing was found to have significantly disrupted academic activities, the paper further recommended that the use of alcohol based hand sanitizer be made compulsory in tertiary institutions. This will create marketing opportunities for institutions to market this and other Covid-19 related products, hence boosting income generation of institutions. Finally, more mega phones should be procured to help amplify lecturers' voices, as they are also expected to wear face masks while lecturing to avoid the spread of the virus.

Key Terms: *Pandemic, COVID -19, Academic Disruption, Lockdown, E-learning*

1. INTRODUCTION

Global activities had been disrupted severally in the past decades due to war, natural disaster, pandemics, and the like. The latest pandemic took the world unawares and appears to have

defied immediate scientific solutions. It has temporarily shut down many countries and allowed only skeletal movements of people on essential services.

Winasih et al., (2020) opined that the outbreak of Covid-19 pandemic in various parts of the world impacted on health and economy in terms of trade, investment and tourism. It grossly affected the education sector. According to UNESCO (2020), Covid-19 pandemic has affected one billion, one hundred and eighty four million, one hundred and twenty six thousand, five hundred and eight (1,184,126,508) learners. This represents 67.6% of total enrolled learners across one hundred and forty country-wide closures.

At the onset of this pandemic, Nigeria, like other African countries, recorded no case of Covid-19 till the 25th of February, 2020, when she recorded her index case, an Italian citizen who worked in Nigeria and returned from Milan to Lagos (NCDC, 2020). Following the outbreak of Coronavirus in the country and as part of measures to contain the spread, the Federal Ministry of Education ordered immediate closure of tertiary institutions, secondary and primary schools nationwide with effect from 23rd March, 2020 (Nlebem, 2020). This closure resulted in students staying at home beyond school resumption dates.

The Minister of State for Education and member, Presidential Task Force (PTF) on Covid-19, had pronounced August 4, 2020 as the resumption date for students in exam classes only, but this was modified by the Minister of Education, Prof Adamu Adamu, who indefinitely halted school resumption for the safety of students till such a time when Covid-19 would have been brought under control (Omololu, 2020). His decision could be attributed to the fact that the 2009 worldwide influenza A/H1N1 pandemic as cited by Uchida et al (2012) particularly affected younger people, including school children.

In all these, resumption of tertiary institutions was put on hold. Given the lockdown of schools, Federal and some state governments like Abia ordered the adoption of e-learning to mitigate the impact of lockdown of schools on students (Ijendu, 2020).

While the Federal Government applauded the indefinite halt in resumption of schools, it was condemned by federal lawmakers and some stakeholders, who felt that necessary consultations were not made before the pronouncement. Some unions of tertiary institutions opposed the move to reopen schools when all safety measures were not provided. Leke (2020) averred that the counter order was bound to create further confusion in the education sector, create disappointment and suspicion among parents, frustrate the students, and show to our development partners and Nigerians that the distortions and disarticulations in the sector are only getting worse.

As the debate raged on, the government mapped out conditions to meet if schools were to resume, in addition to wearing of face masks which was made compulsory to everybody in the country. Parts of the conditions were that hand-washing facilities, body temperature checks and body disinfectants were to be provided at all points of entry to their major facilities including the gates, hostels, classes, offices, etc. Decontamination of premises of every institution and the overall maintenance of hygiene were also included in the conditions that must be met.

Authorities of academic institutions were also mandated to ensure social/physical distancing in classes and meeting spaces (Tunde, 2020).

While political campaigns were approved, and markets, banks, airports, worship centres, eateries, and similar places that encourage large gathering were permitted to open up, tertiary institutions were locked down, with the injunction that e-learning be adopted by all institutions. The problem boils down to whether to continue with the lockdown policy and augment with e-learning, or open up tertiary institutions and stick to Covid-19 guidelines as specifically mentioned. If students were locked down from schools alone, but were allowed to go to congested places like markets, salons, burial places, and the like, will they still not be exposed to Covid-19 infection? If e-learning were adopted by tertiary institutions while on lockdown, will academic activities still be disrupted in the real sense of it? If students were forced to wash their hands regularly, wear face masks and maintain social/physical distancing, will academic activities be disrupted and to what extent? Which of these Covid-19 protocols: lockdown, hand washing, wearing of facemasks, maintenance of social/physical distancing is likely to disrupt academic activities the most? This research work would respond to all issues raised and recommend the way forward, as well as explore the marketing implications of decisions reached.

Research Hypotheses

The following hypotheses were tested in this work:

- Ho1: Lockdown of tertiary institutions does not significantly disrupt academic activities since e-learning is in progress.
- Ho2: Compulsory use of face masks on campus does not have a significant effect on disruption of academic activities.
- Ho3: Practice of social/physical distancing on campus does not have a significant effect on academic disruption.
- Ho4: Regular hand washing on campus does not contribute positively to academic disruption.

2. REVIEW OF RELATED LITERATURE

2.1 Theoretical Review

Pandemic. Taro (2013) asserted that pandemic originated from two Greek words: “pan” and “d mos” which mean all and people, respectively. Thus, pandemic originally meant all people. Taro went further to define pandemic as infectious disease that spreads globally and causes mortality on a significant scale. Similarly, WHO (2020) simply defined a pandemic as the worldwide spread of a disease. They added that a pandemic is an epidemic occurring worldwide, or over a very wide area, crossing international boundaries and usually affecting a large number of people. The classical definition includes nothing about population immunity, virology or disease severity. By this definition, pandemics can be said to occur annually in each of the temperate southern and northern hemispheres, given that seasonal epidemics cross international

boundaries and affect a large number of people. However, seasonal epidemics are not considered pandemics.

Covid – 19. Coronavirus disease 2019 (COVID-19) is defined as illness caused by a novel coronavirus now called severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2; formerly called 2019-nCoV), which was first identified amid an outbreak of respiratory illness cases in Wuhan City, Hubei Province, China. It was first reported to the World Health Organization on 31st December, 2019 and on January 30, 2020, the WHO declared the COVID-19 outbreak a global health emergency. On March 11, 2020, the WHO, finally declared COVID-19 a global pandemic, and this became the first of such designation since 2009 when they declared H1N1 influenza a pandemic (David, 2020).

Academic Disruption. Disruption is an interruption in the normal flow or course of an activity, event or process. Academic disruption, therefore, is an interruption in the planned and scheduled academic activities of an academic institution.

Lockdown. Wikipedia defined lockdown as a requirement for people to stay where they are, usually due to specific risks to themselves or to others if they can move freely. The term "stay-at-home" or "shelter-in-place" is often used for lockdowns that affect an area, rather than specific locations. Lockdowns limit movements or activities in a community while allowing most organizations to function normally, or limit movements or activities such that only organizations on essential services are allowed to function normally. During COVID-19 pandemic, lockdown was described as mass quarantine or stay-at-home order by governments to their citizens. It ranged from total lockdown to partial lockdown. With partial lockdown in progress, academic institutions are still under lockdown. This means that gates of academic institutions are shut, thus halting normal academic activities.

E-Learning. This is the science of learning with the aid of electronic gadgets. It is the use of telecom devices to train and ultimately educate people. According to Sun et al. (2008), e-learning is emerging as the paradigm of modern education. They added that the great advantages of e-learning include liberating interactions between learners and instructors, from limitations of time and space through the asynchronous and synchronous learning network model. Naidu (2006) opined that the term, e-learning, comprises a lot more than online learning, as the letter “e” in e-learning stands for the word “electronic”, e-learning would incorporate all educational activities that are carried out by individuals or groups working online or offline.

Protection Motivation Theory

Protection Motivation Theory (PMT) was propounded by R.W. Rogers in 1973 as a means of appreciating how and why people react to threats to their health and safety (Audrey and Joshua, 2015). PMT expounds how people cope with and make decisions in life threatening situations or stressful events in life. These decisions are a way of protecting oneself from perceived threats. The theory attempts to explain and predict what motivates people to change their behavior.

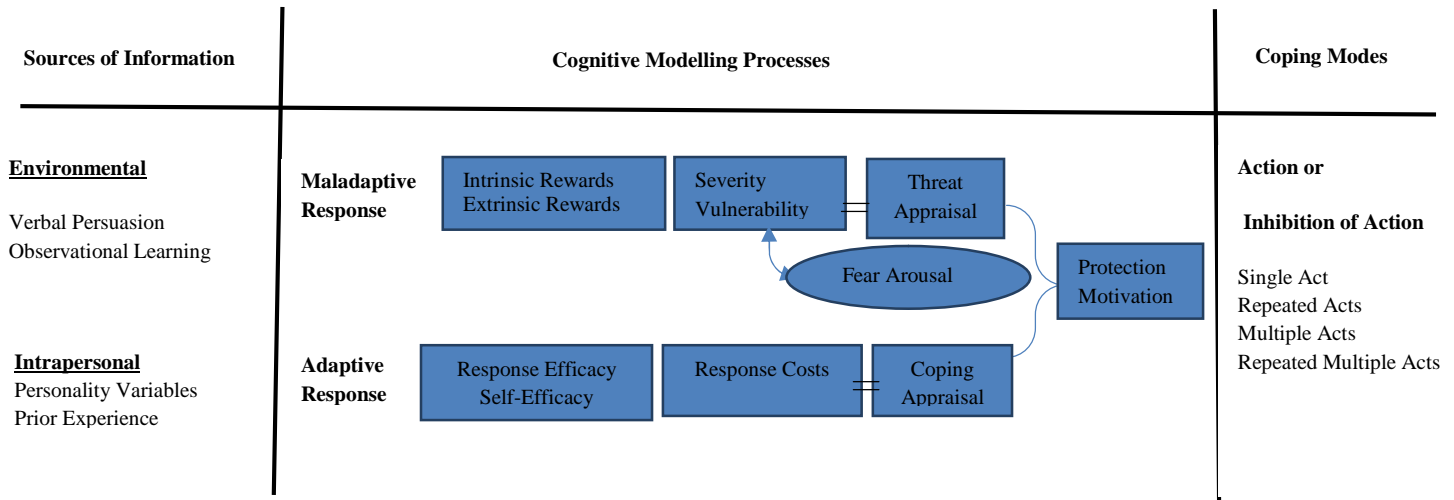


Fig. 2.1. Protection Motivation Theory
Source: Rogers (1983).

According to Rogers, information for such decisions come from two major sources: environmental and intra-personal.

Environmental Sources. Environmental sources of information are those sources that are external to an individual. It includes verbal persuasion from the media, health agencies, family members, friends, neighbours, among others. Environmental sources include information obtained from observation. Information on protection against Covid-19 (persuasive messages on regular hand washing, wearing of face masks, and observance of social/physical distancing) could come from World Health Organization (WHO), National Centre for Disease Control (NCDC), Ministry of Health, media, family members, friends on various social platforms, and others.

Intra-personal Sources. Intrapersonal sources of information spring from the inside of an individual. It relates to an individual’s personality traits or prior experiences in life. If one has ever experienced life threatening disease, he may not need to be persuaded for him to protect himself.

Roger as cited by Audery and Joshua asserted that information obtained from environmental and intrapersonal sources are assessed during cognitive mediating process to know whether to respond to such potential threats or not, and whether to react in a specific way or other ways. He identified two cognitive mediating response processes by which an individual does this assessment. They are:

Maladaptive Response. This is also known as threat appraisal process. It is an inadequate adaptation to a new situation. During this process, the individual assesses the potential threats of continuing with a current lifestyle and goes with an option, that is obviously inadequate. An

individual may assess intrinsic or extrinsic rewards of embarking on a particular action. For instance, a female student who likes to make up, may just ignore the use of face masks, and consider the extrinsic reward of not wearing a facemask, which might just be to earn people’s admiration, even at the expense of her life. This could also be seen in people’s aesthetic decision to wear only face shield that has been proven to be a non-substitute to face mask.

Adaptive Response. While the maladaptive response process allows an individual to evaluate the risks of potential threats, the adaptive response process (coping appraisal process) allows an individual to evaluate potential responses that could protect the individual from a given threat. The first thing an individual does is to check his/her perception of whether or not a given protective response will be able to prevent a given threat [response efficacy], and whether he/she is capable of employing the protective response in a way that it will be effective in offering protection against any potential threat (self-efficacy). He or she also considers the relative cost (monetary or social costs) of adopting a given protective response [response costs]. Having evaluated these factors, he or she will determine whether a proposed protective response will actually offer the desired protection in a cost-effective manner.

Narrowing this theory to Covid-19 pandemic threat, it is obvious that lockdown, wearing of face mask or face shield are protective responses to Covid-19 threats. These options have to be evaluated properly by governments at all levels and every stakeholder to be able to motivate people to take the right response action that is both cost effective and safe to all.

2.2 Conceptual Review

The Covid-19 guidelines under consideration are lockdown, wearing of face masks, maintenance of social or physical distancing and regular hand washing. All these are independent variables, while academic disruption is the dependent variable.

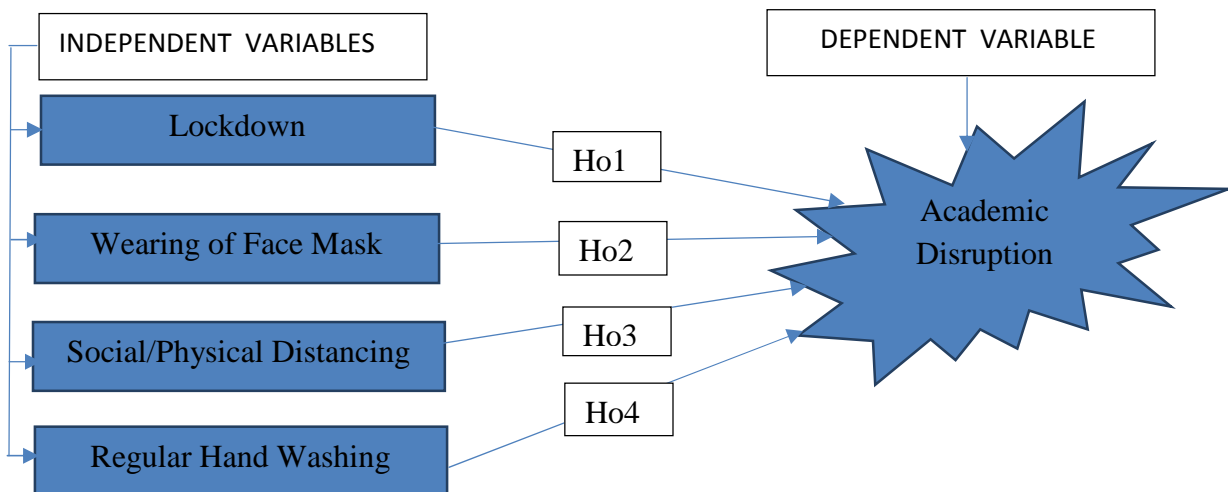


Fig 2.2 Covid-19 Guidelines and Academic Disruption Interface

Source: Researchers (2020)

From the conceptual framework above, it is obvious that there are two sets of variables: independent and dependent. Independent variables comprise of lockdown, wearing of face masks, maintenance of social/physical distancing and regular hand washing. On the contrary, academic disruption represents the dependent variable. The extent, to which lockdown, wearing of facemask, physical distancing and regular hand washing affect disruption of academic activities, as captured by the stated hypotheses, will be revealed in the data analysis below. The extent of relationship between these two variables will be appropriately weighed to decide on whether to continue with the lockdown policy, or open up and ensure the observance of Covid-19 protocols.

2.3 Empirical Review

Chen et al., (2011) conducted an empirical study on the Social and economic impact of school closure resulting from pandemic influenza A/H1N1. Households were surveyed using a questionnaire to obtain information on adherence to, socio-economic impact by and inconveniences of school closure. The school principal and other stakeholders were interviewed to assess the impact on the staff. Compliance and adverse events of chemoprophylaxis were assessed. The study concluded that short-term school closure was supported by the majority of families despite economic inconvenience to the households.

Similarly, Bilal et al., (2020) conducted a study on impact of Covid-19 lockdown on psychological health, economy and social life of people in Kashmir. The study was aimed at surveying the general public in Kashmir to understand their levels of psychological impact, anxiety, depression and stress along with the economic downfall disturbing the social life of people during the initial stage of the Covid-19 outbreak. The study revealed that lockdown was a temporary solution to prevent the spread of Covid-19 infection, though it can result in many new problems such as psychological problems.

On the other hand, Olalekan et al., (2020) conducted a cross sectional survey on the need to evaluate the public perception of social distancing, lockdown obligatory, and response satisfactory during the pandemic using a sample size of one thousand one hundred and thirty one (1,131) respondents spread across Nigeria. The researchers used snowball sampling to reach their respondents with the aid of Google based questionnaire. Results showed that majority of the respondents believed that social distancing is an effective measure to reduce the spread of COVID-19. They also found that the general public accepted the obligatory lockdown.

3. METHODOLOGY

A descriptive research design was adopted for this study and a sample size of two hundred and forty six (246) was determined using proportion method, given the fact that the population of students in tertiary institutions in Nigeria is not domiciled within public domain. To reach both students and lecturers in Nigeria, copies of questionnaire designed in Likert scale format were administered on respondents who were on various WhatsApp platforms. The questionnaire consists of twenty four statements that covered the five variables: lockdown, wearing of face masks, observance of social/physical distancing, regular hand washing, and academic disruption.

The questionnaire was conveniently administered, but retrieved amidst some challenges, given the discouraging level of electronic communication infrastructure at the disposal of an average Nigerian. The decision to administer the questionnaire electronically was taken to reduce the spread of Covid-19, which would have been there if the questionnaire were to be administered physically on the respondents.

4. DATA PRESENTATION, ANALYSIS AND INTERPRETATION OF RESULTS

4.1 Descriptive Analysis of Responses

Responses obtained from the questionnaire, as well as the frequency distributions, percentages (put in parentheses), mean and standard deviation are summarized and shown in Table 4.1 below.

Table 4.1: Descriptive Statistics of Responses of the Questionnaire. $n = 246$

SN	SD	(%)	D	(%)	A	(%)	SA	(%)	Mean	SD
1	69	(28.0)	106	(43.1)	36	(14.6)	35	(14.2)	2.15	0.989
2	20	(8.1)	20	(8.1)	122	(49.6)	84	(34.1)	3.10	0.861
3	16	(6.5)	38	(15.4)	78	(31.7)	114	(46.3)	3.18	0.922
4	67	(27.2)	85	(34.6)	57	(23.2)	37	(15.0)	2.26	1.021
5	35	(14.2)	36	(14.6)	106	(43.1)	69	(28.0)	2.85	0.989
6	49	(19.9)	82	(33.3)	68	(27.6)	47	(19.1)	2.46	1.016
7	13	(5.3)	20	(8.1)	66	(26.8)	147	(59.8)	3.41	0.851
8	56	(22.8)	19	(7.7)	62	(25.2)	109	(44.3)	2.91	1.195
9	70	(28.5)	109	(44.3)	30	(12.2)	37	(15.0)	2.14	0.997
10	7	(2.8)	2	(0.8)	119	(48.4)	118	(48.0)	3.41	0.657
11	5	(2.0)	6	(2.4)	87	(35.4)	148	(60.2)	3.54	0.649
12	6	(2.4)	0	(0.0)	122	(49.6)	118	(48.0)	3.43	0.627
13	146	(59.3)	89	(36.2)	6	(2.4)	5	(2.0)	1.47	0.649
14	2	(0.8)	6	(2.4)	114	(46.3)	124	(50.4)	3.46	0.590
15	3	(1.2)	33	(13.4)	83	(33.7)	127	(51.6)	3.36	0.757
16	8	(3.3)	34	(13.8)	99	(40.2)	105	(42.7)	3.22	0.805
17	7	(2.8)	54	(22.0)	94	(38.2)	91	(37.0)	3.09	0.835
18	19	(7.7)	24	(9.8)	116	(47.2)	87	(35.4)	3.10	0.868
19	3	(1.2)	33	(13.4)	83	(33.7)	127	(51.6)	3.36	0.757
20	15	(6.1)	13	(5.3)	89	(36.2)	129	(52.4)	3.35	0.838
21	38	(15.4)	79	(32.1)	74	(30.1)	55	(22.4)	2.59	1.001
22	147	(59.8)	68	(27.6)	19	(7.7)	12	(4.9)	1.58	0.833
23	134	(54.5)	85	(34.6)	13	(5.3)	14	(5.7)	1.62	0.828
24	3	(1.2)	39	(15.9)	122	(49.6)	82	(33.3)	3.15	0.721

Source: Field Survey, 2020

The results of Table 4.1 show that the mean values of the 24 questions in the questionnaire for the research questions lie between 1.47 and 3.54 of the 4-point Likert scale used in collecting the data. This indicates that the data obtained fall within the expected range of data required for this study. Similarly, the associated standard deviation values lie between 0.590 and 1.195, which are close to zero as expected.

The responses to the statements in the questionnaire are captured in the bar charts below to reveal at a glance the views of respondents.

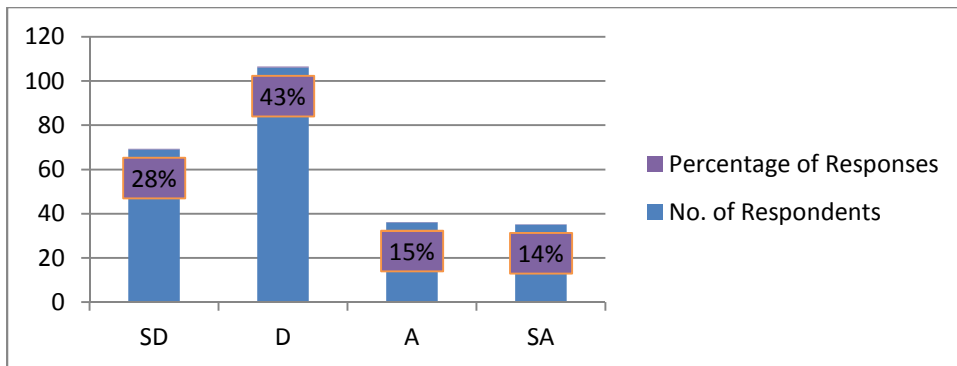


Figure 1: Students should be locked down at home from schools during this period of Covid-19

From the chart above, it is obvious that 71% of the respondents disagreed that students should be locked down at home, while 29% agreed with this view.

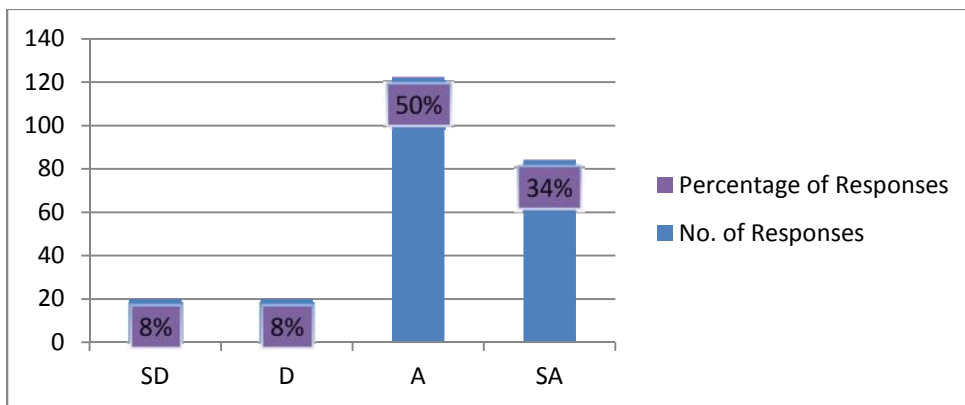


Figure 2: Lockdown of academic institutions promotes adoption of e-learning

The chart above shows that 84% of the respondents agreed that lockdown of students promotes the adoption of e-learning, while 16% disagreed with this view.

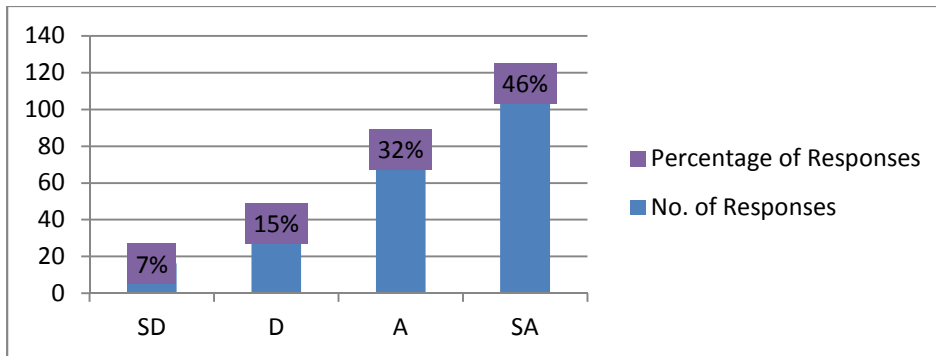


Figure 3: Lockdown of academic institutions frustrates students at home, despite the on-going e-learning practice

78% of the respondents in the chart above agreed that lockdown of students frustrates students at home despite the ongoing e-learning. However, 22% of the respondents did not align with this popular view. This is in line with the findings of Bilal et al., (2020) that revealed that lockdown has psychological impact on people.

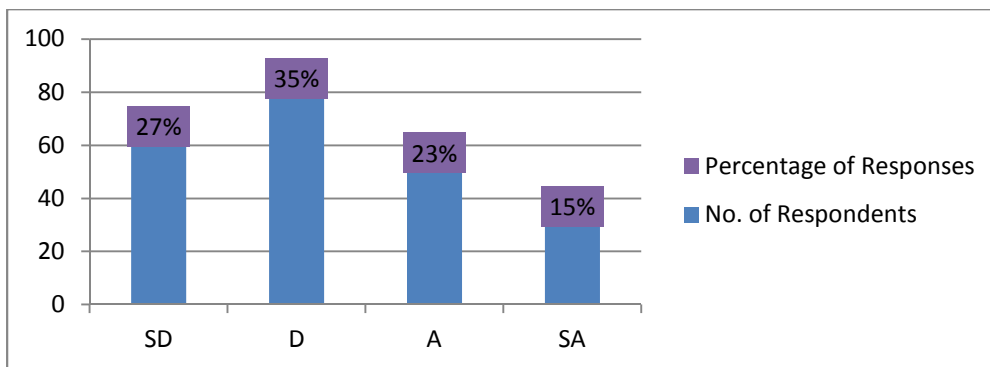


Figure 4: Students prefer being locked down at home to going for lectures at their various campuses

While 62% of the respondents did not agree that students prefer being locked down at home to going for lectures at their various campuses, only 38% of the respondents agreed. This is not in agreement with the findings of Olalekan et al., (2020) which revealed that majority of the people were in support of the lockdown policy of Nigerian government.

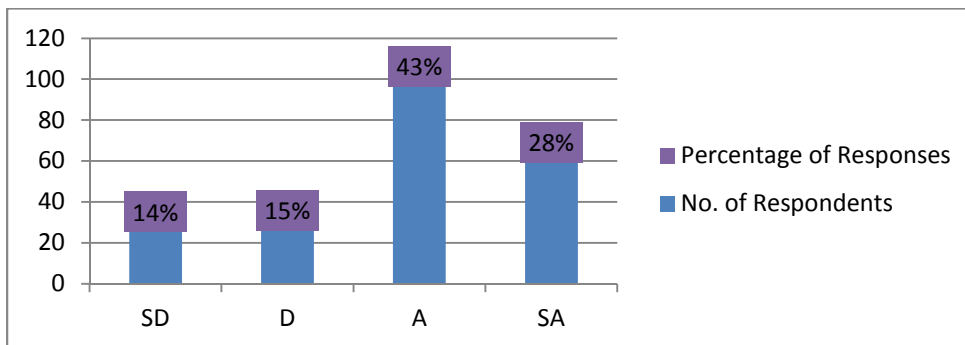


Figure 5: Lockdown of academic institutions does not reduce the spread of Covid-19 since students in question still go to the market and other congested places

From the chart above, 71% of the respondents agreed that lockdown of academic institutions does not reduce the spread of Covid-19 since the students in question still go to the market and other congested places. Only 29% of the respondents disagreed with this statement.

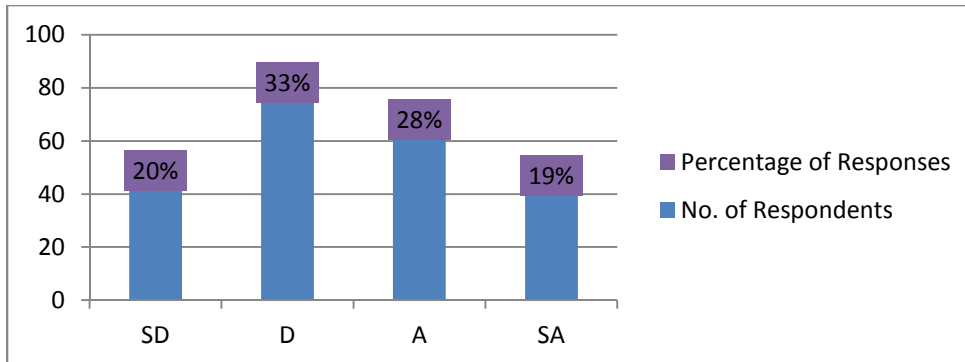


Figure 6: It is better to lock down students than to open schools

The chart above shows that 53% of the respondents disagreed that it is better to lock down students than to reopen schools, while 47% agreed.

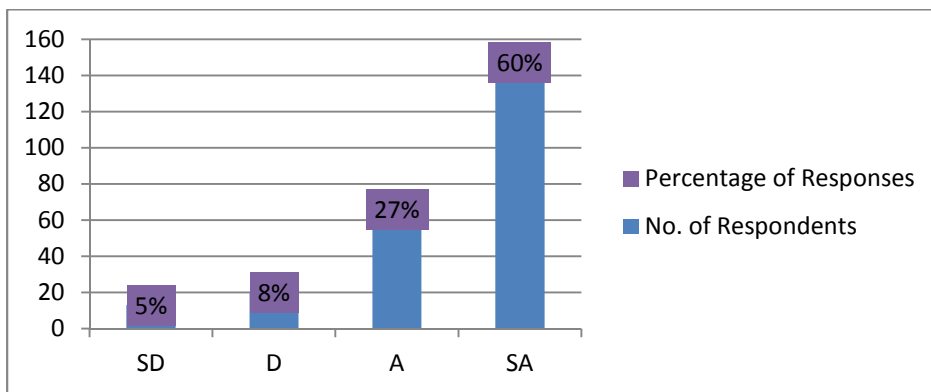


Figure 7: Students should be forced to wear face masks to their institutions

From the chart above, 87% of the respondents were of the view that students should be forced to wear face masks to their institutions. Only 13% of the respondents thought otherwise.

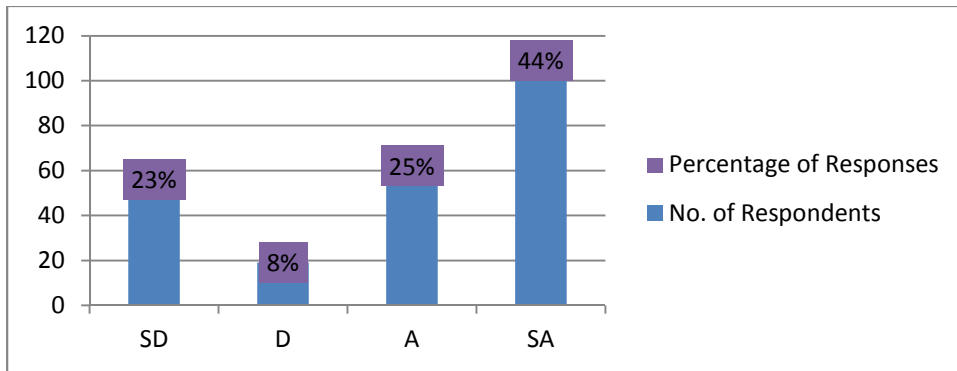


Figure 8: Students who are not with their face masks should not be allowed into the campus

The chart above shows that 69% of the respondents agreed that students without face masks should not be allowed into the campus, while 31% of the respondents did not agree with the statement.

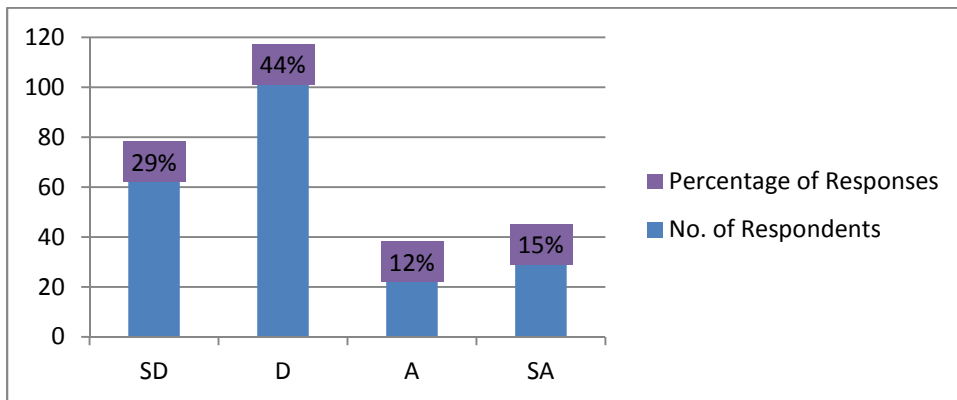


Figure 9: Lecturers can be excused from wearing face masks when they are lecturing

73% of the respondents in the chart above disagreed that lecturers should be excused from wearing face masks when lecturing, while 27% of the respondents said that they can be excused.

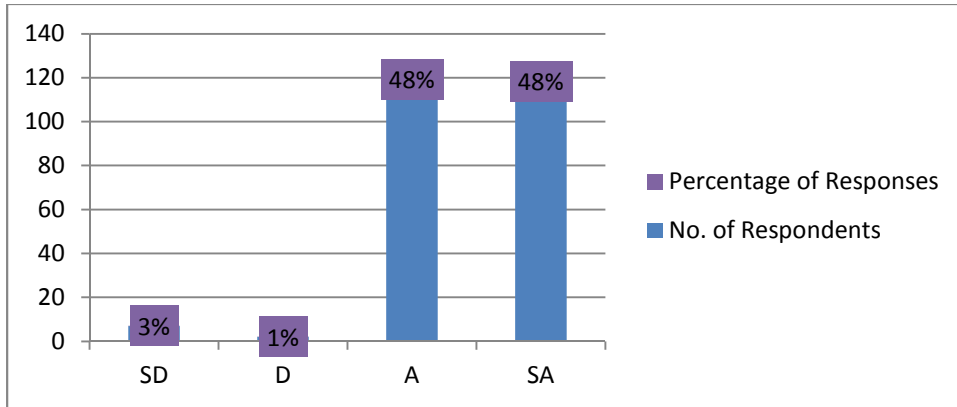


Figure 10: It is better to come to school with face masks than to be locked down at home due to Covid-19 pandemic

The chart above shows that almost all the respondents (96% of the respondents) agreed that it is better to go to school with face masks than to be locked down at home. 4% of the respondents said otherwise.

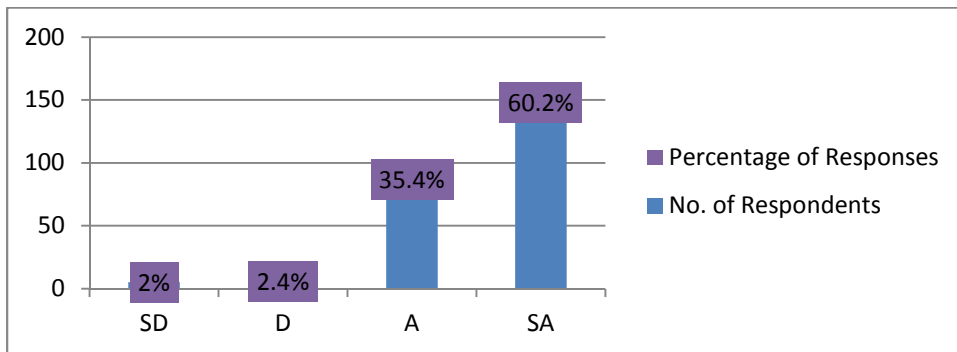


Figure 11: Students should maintain social/physical distancing from one another

From the chart above, 96% of the respondents agreed that students should maintain social/physical distancing from one another, while only 4% disagreed with the statement.

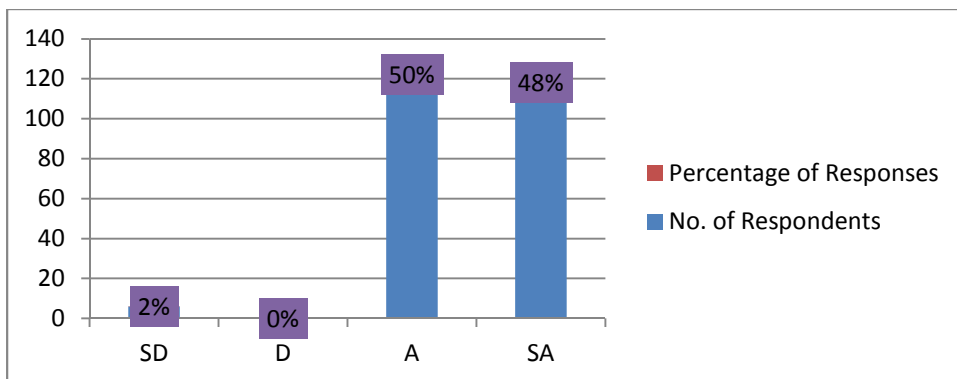


Figure 12: It is not practicable for students to maintain physical distancing on campus.

The chart above shows that 98% of the respondents were of the view that it is not practicable for students to maintain physical distancing on campus. Only 2% of the respondents disagreed.

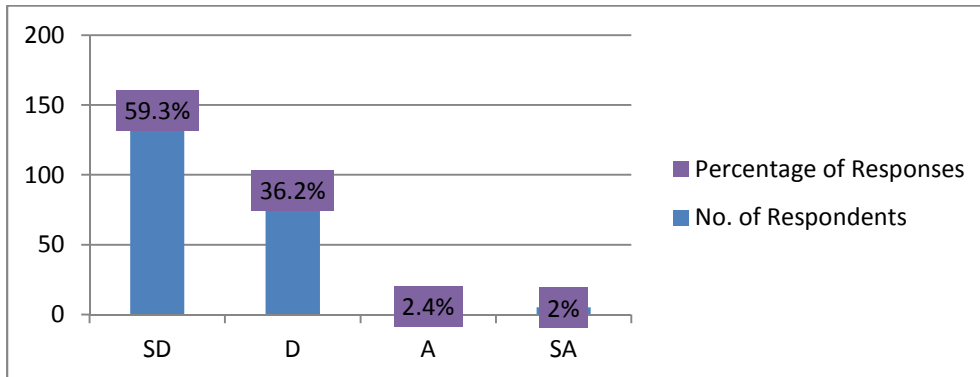


Figure 13: Academic institutions are likely to mark classrooms and hostels as it is done at airports to ensure physical distancing.

96% of the respondents shown in the chart above disagreed that academic institutions are likely to mark classrooms and hostels as it is done at airports to ensure physical distancing. Only 4% of the respondents agreed.

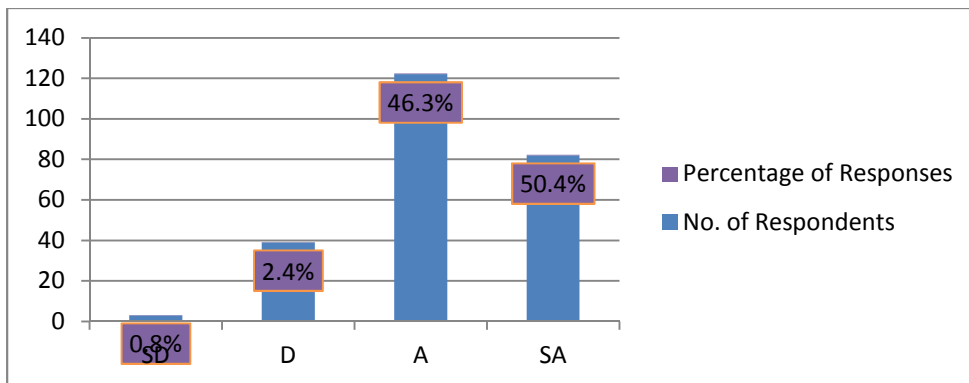


Figure 14: Ensuring that social/physical distancing is done is better than locking down students at home due to Covid-19.

While 97% of the respondents agreed that enforcing social/physical distancing in schools is better than being locked down at home due to Covid-19, only 3% of the respondents disagreed.

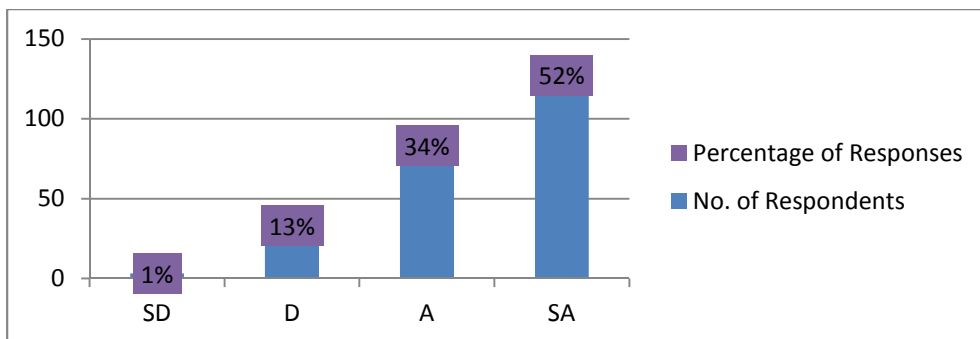


Figure 15: Students should wash their hands regularly.

From the chart above, 86% of the respondents agreed that students should wash their hands regularly, while 14% disagreed with the regular hand washing protocol.

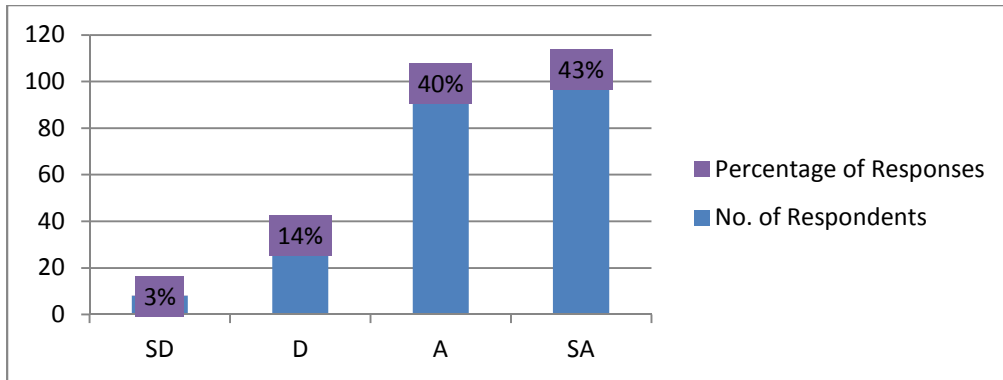


Figure 16: Running water is available in all tertiary institutions.

The chart above shows that 83% of the respondents agreed that running water is available in all tertiary institutions, while 17% of the respondents did not agree with this view.

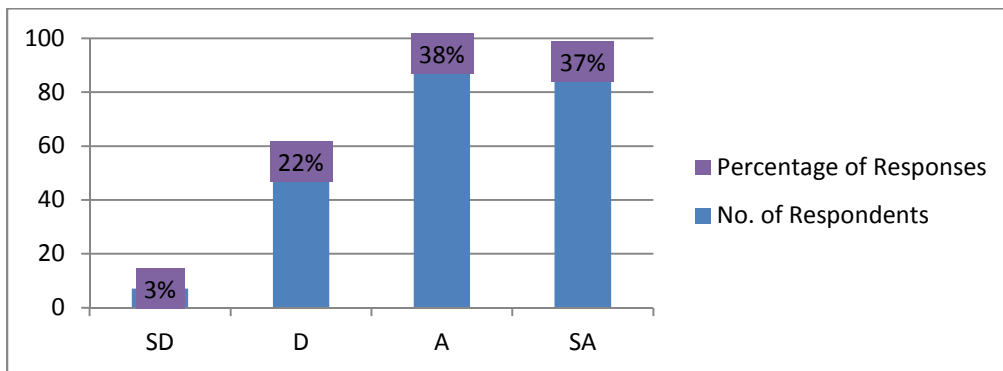


Figure 17: Schools will always make soap available to students.

75% of the respondents believed that schools will make soap available to students, while 25% disagreed with this.

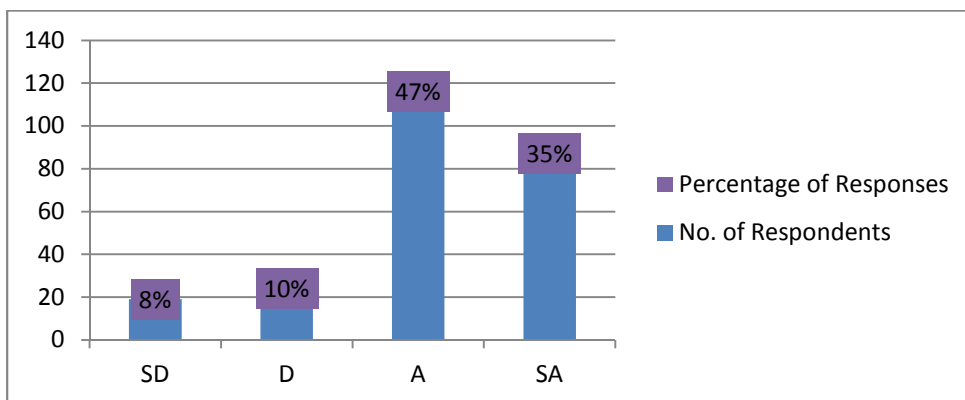


Figure 18: Washing of hands should be a criterion for entering the classroom when school resumes.

82% of the respondents agreed that washing of hands should be a criterion for entering the classroom when school resumes. Only 18% of the respondents disagreed with this.

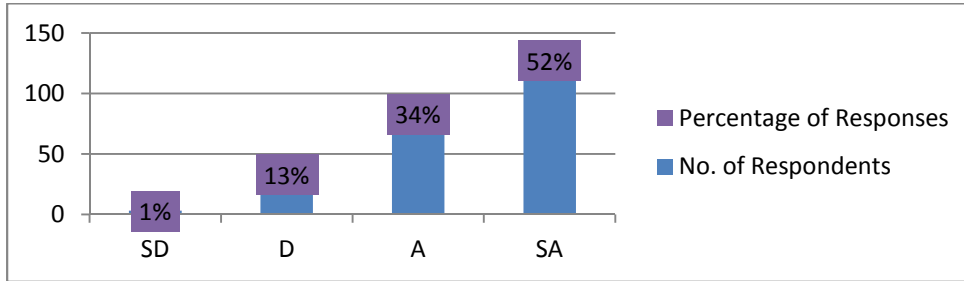


Figure 19: It is better to force students to wash their hands regularly than to lock them down at home.

While 86% of the respondents affirmed that it is better for students to wash their hands regularly than for them to be locked down at home, only 14% of the respondents disagreed with this.

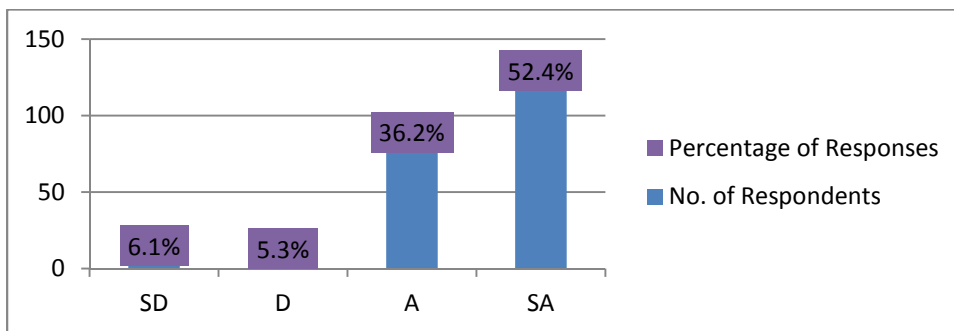


Figure 20: Lockdown of academic institutions disrupts academic activities.

From the chart above, 89% of the respondents agreed that lockdown of academic institutions disrupts academic activities, while 11% of the respondents disagreed with this view.

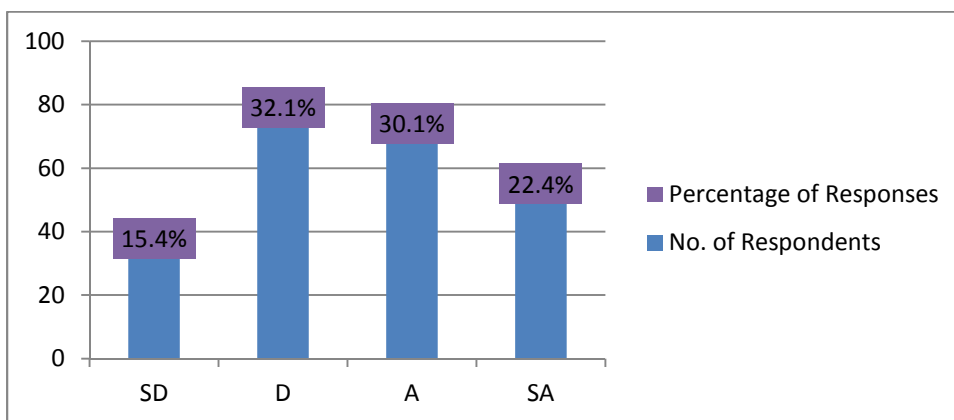


Figure 21: Lockdown of academic institutions does not disrupt academic activities if e-learning is in place.

While 47.5% of the respondents disagreed with the statement that lockdown of academic institutions does not disrupt academic activities if e-learning is in progress, 52.5% agreed with the statement.

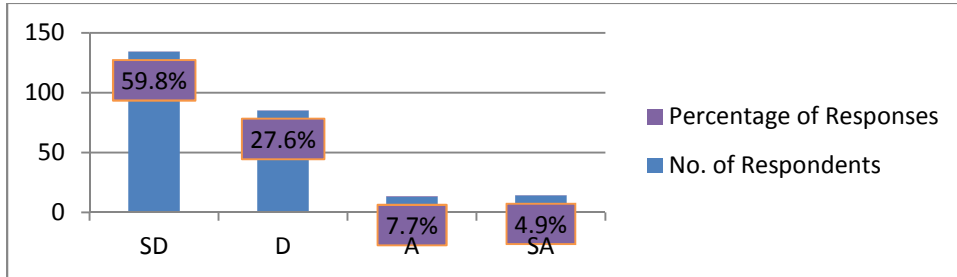


Figure 22: Compulsory use of face masks disrupts academic activities.

The chart above shows that 87% of the respondents disagreed that compulsory use of face masks disrupts academic activities, while 13% agreed with this statement.

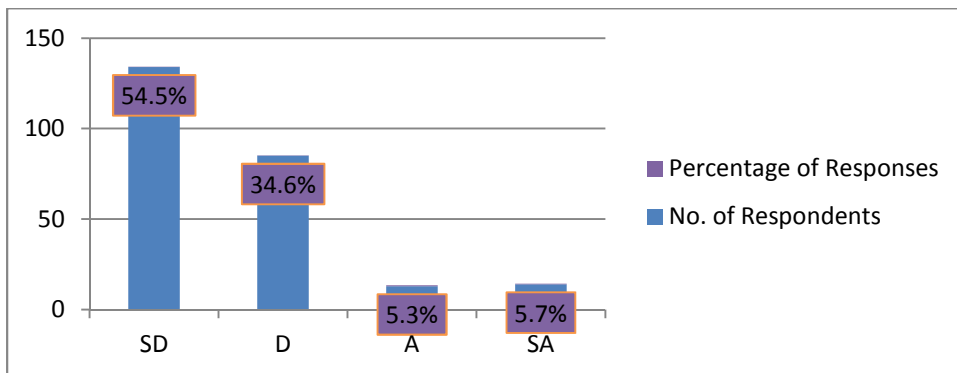


Figure 23: Practice of social/physical distancing disrupts academic activities.

From the chart above, 89% of the respondents disagreed that social/physical distancing disrupts academic activities, while 11% of the respondents agreed with this statement.

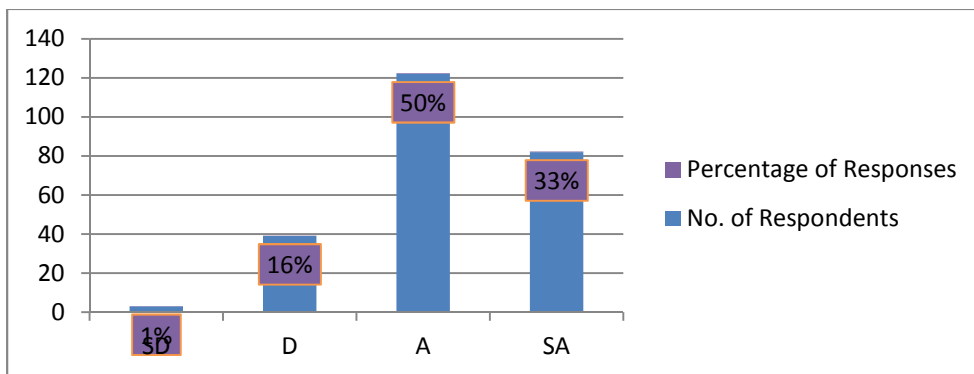


Figure 24: Regular washing of hands at strategic points on campuses disrupts academic activities.

The chart above shows that 17% of the respondents disagreed that regular hand washing at strategic points on campuses disrupts academic activities. However, 83% of the respondents agreed that it actually disrupts academic activities.

4.2 Regression Analysis for the Test of the Hypotheses

The independent and dependent variables (X and Y, respectively) for the analyses are operationalized using the statements (S) in the questionnaire as stated below:

$$X_1 = \text{Lockdown of tertiary institutions} = \text{Average } (S_1, S_2, S_3, S_4, S_5, S_6)$$

$$X_2 = \text{Compulsory use of face masks on campuses} = \text{Average } (S_7, S_8, S_9, S_{10})$$

$$X_3 = \text{Practice of social/physical distancing on campuses} = \text{Average } (S_{11}, S_{12}, S_{13}, S_{14})$$

$$X_4 = \text{Regular hand washing on campus} = \text{Average } (S_{15}, S_{16}, S_{17}, S_{18})$$

$$Y = \text{Disruption of academic activities} = \text{Average } (S_{19}, S_{20}, S_{21}, S_{22}, S_{23}, S_{24})$$

Test of Hypothesis One

H₀1: Lockdown of tertiary institutions does not significantly disrupt academic activities since e-learning is in progress.

Hypothesis one is tested by relating Lockdown of tertiary institutions (X_1) on Disruption of academic activities (Y) and the results of the regression analysis are given in Table 4.2 below:

Table 4.2: Regression Analysis of Lockdown and Disruption of Academic Activities

Variable	Coefficients		T	p-value	Decision
	B	Std. Error			
Constant	1.550	0.128	12.107	0.000	Reject
Lockdown of tertiary institutions	0.397	0.048	8.359	0.000	Reject

The results of Table 4.2 show that the effect of lockdown of tertiary institutions on disruption of academic activities is 0.397, indicating that a unit increase in the lockdown of tertiary institutions increases the disruption of academic activities by an average of 0.397 units. This effect is significant as its test statistics of 8.359 is higher than a unit value of one, and its p-value of 0.000 is significantly less than 0.05. This provides statistical evidence to reject the null hypothesis at 5 percent significance level and to accept the alternate hypothesis that states that lockdown of tertiary institutions significantly disrupts academic activities, even with e-learning in progress. Corroborating the result of this study, Simon & Hans (2020) asserted that the global lockdown of education institutions was going to cause major disruption in students' learning. Similarly, Ogunode et al., (2020) affirmed that lockdown causes disruption of education activities.

Test of Hypotheses Two, Three and Four

H₀2: Compulsory use of face masks on campus does not have a significant effect on disruption of academic activities.

H₀₃: Practice of social/physical distancing on campus does not have a significant effect on academic disruption.

H₀₄: Regular hand washing on campus does not contribute positively to academic disruption.

Taking X as a linear combination of X_2, X_3 and X_4 ; then X = Observance of COVID-19 rules. To determine the effect of the observance of COVID-19 rules on the disruption of academic activities if schools were reopened, we regress X_2, X_3 and X_4 on Disruption of academic activities and the results are summarized in Tables 4.3 below:

Table 4.3: Observance of Effect of COVID-19 Rules on Disruption of Academic Activities.

Variables	Coefficients		t	p-value	Decision
	B	Std.			
Constant	2.348	0.232	10.12	0.000	Reject
Compulsory use of face masks on campus	-0.075	0.041	-1.823	0.070	Accept
Practice of physical distancing on campus	0.014	0.070	0.207	0.836	Accept
Regular hand washing on campus	0.137	0.043	3.178	0.002	Reject

The results of Table 4.3 show that the effect of compulsory use of face masks on campus on disruption of academic activities is -0.075. This indicates that a unit increase in compulsory use of face masks on campus has a slight negative effect on disruption of academic activities by an average of -0.075 unit, and this effect is not significant as its test statistics, -1.823, is insignificantly less than a unit value of one, and its p-value, 0.070, is greater than 0.05. This provides statistical evidence to accept at 5 percent significance level the null hypothesis that states that compulsory use of face masks does not have a significant effect on disruption of academic activities on campus

With respect to the third hypothesis, the effect of practice of social/physical distancing on campus is 0.014. This indicates that a unit increase in practice of social/physical distancing on campus yields 0.014 unit increase in the disruption of academic activities. This effect is quite insignificant as its test statistics, 0.207, is less than 1, and the p-value is 0.836, hence the third null hypothesis that states that practice of social/physical distancing on campus does not have a significant effect on academic disruption is accepted at 5 percent significance level as its p-value of 0.836 is greater than 0.05.

Finally, the test of the fourth hypothesis shows that the effect of regular hand washing on campus on disruption of academic activities is equal to 0.137. This indicates that a unit increase in regular hand washing on campus increases the index of disruption of academic activities by 0.137 unit. This effect is significant as its test statistics, 3.178, is greater than 1, and its p-value of 0.002 is less than 0.05. Therefore, the fourth null hypothesis that states that regular hand washing on campus does not contribute positively to academic disruption is rejected at 5 percent significance level, hence the alternate that states that regular hand washing on campus disrupts academic activities is accepted.

5. CONCLUSION

Since the incident of Covid-19 pandemic, stakeholders of one of the probably worst hit sectors, the education sector, appeared to be indecisive on whether to open up tertiary institutions or keep locking down, given the unabating spread of the pandemic. To weigh in on this, this study investigated the effect of some Covid-19 protocols: lockdown of tertiary institutions, wearing of face masks, practice of social/physical distancing, and regular hand washing on campus on disruption of academic activities to unveil the variable that contributes most to academic disruption, and be well informed to take scientific decisions on this raging issue. The findings from the analysis showed that lockdown of tertiary institutions contributes significantly and positively to the disruption of academic activities, while wearing of face masks on campus and the practice of social/physical distancing on campus have no significant effect on disruption of academic activities. However, regular hand washing on campus was found to have a significant effect on disruption of academic activities.

6. RECOMMENDATIONS

From the findings of this research, we, therefore, recommend the following:

- That since lockdown of tertiary institutions significantly increases the disruption of academic activities despite the ongoing e-learning, there is serious need to reopen schools.
- Use of face masks on campus should be made compulsory to both students and staff of tertiary institutions as it will not significantly disrupt academic activities when schools reopen within this period of COVID-19.
- Practice of social/physical distancing on campus should be observed by lecturers and students alike, as it does not disrupt academic activities significantly.
- Instead of insisting on regular hand washing on campus, the use of alcohol based hand sanitizer should be promoted and made compulsory, since regular hand washing was found to have a significant effect on disruption of academic activities,.
- Marketing arm of various institutions should swing into action to see that branded quality hand sanitizers of all sizes, shapes and colours are produced and aggressively marketed both within and outside the premises of higher institutions to boost internally generated revenue of tertiary institutions.
- Similarly, high quality, very attractive and customized face masks of various sizes, shapes and colours should be made by schools, and strategically marketed and sold at reduced prices to encourage students' patronage.
- Since nobody is excused from wearing face masks, efforts should be made by school authorities to provide public address systems to help amplify the voices of lecturers as they lecture with their face masks on them. This will help to reduce the spread of the virus among people who use common mega phones on the campus.

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APPENDIX 1: QUESTIONNAIRE ON EFFECT OF COVID-19 GUIDELINES ON ACADEMIC DISRUPTION IN TERTIARY INSTITUTIONS

KEY: SD (Strongly Disagree); D (Disagree); A (Agree); SA (Strongly Agree)

S/N	STATEMENT	SD	D	A	SA
1	Students should be locked down at home from schools during this period of Covid-19.				
2	Lockdown of academic institutions promotes adoption of e-learning.				
3	Lockdown of academic institutions frustrates students at home, despite the on-going e-learning practice.				
4	Students prefer being locked down at home to going for lectures at their various campuses.				
5	Lockdown of academic institutions does not reduce the spread of Covid-19 since students in question still go to the market and other congested places.				
6	It is better to lock down students than to open schools.				
7	Students should be forced to wear face masks to their institutions.				
8	Students who are not with their face masks should not be allowed into the campus.				
9	Lecturers can be excused from wearing face masks when they are lecturing.				
10	It is better to come to school with face masks than to be locked down at home due to Covid-19 pandemic				
11	Students should maintain social/physical distancing from one another.				
12	It is not practicable for students to maintain physical distancing on campuses.				
13	Academic institutions are likely to mark classrooms and hostels as it is done at airports to ensure physical distancing.				
14	Ensuring that physical distancing is done is better than locking down Students at home due to Covid-19.				
15	Students should wash their hands regularly.				
16	Running water is available in all tertiary institutions.				
17	Schools will always make soap available to students.				
18	Washing of hands should be a criterion for entering the classroom.				
19	It is better to force students to wash their hands regularly than to lock them down at home.				
20	Lockdown of academic institutions disrupts academic activities.				
21	Lockdown of academic institutions does not disrupt academic activities if e-learning is in place.				
22	Compulsory use of face masks disrupts academic activities.				
23	Practice of physical distancing disrupts academic activities.				
24	Regular washing of hands at strategic points on campuses disrupts academic activities.				

APPENDIX 2: SAMPLE SIZE DETERMINATION

Sample size was obtained using Cochran's formular: $n = \frac{Z^2 \sigma^2}{e^2}$

Where,

n = Sample size.

Z = 1.96 for 95% confidence level. Z is the abscissa of the normal curve.

σ^2 = variance of the characteristic of the population under study.

e = error margin i.e., the desired level of precision (set at 0.10, 0.05, 0.01).

In this case, $\sigma^2 = 0.4$, $e = 5\% = 0.05$

$$n = \frac{Z^2 \sigma^2}{e^2} = \frac{1.96^2 (0.4^2)}{(0.05)^2} = 245.86 \approx 246$$