Perception of Technology Education Lecturers on School-Based Social Distancing Practices for Curbing the Transmission of Corona Virus Disease in Niger State, Nigeria

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ABSTRACT

The study identified the perception of technology education lecturers on school-based social distancing practices for curbing the transmission of Corona Virus Disease (COVID-19) in Niger State, Nigeria. Two research questions were raised to guide the study and two hypotheses were formulated and tested at .5 level of significant. The research design used for this study was descriptive survey research design. The study was carried out in Niger State, Nigeria. The population of the study consisted of 52 technology education lecturers, 25 from Federal University of Technology, Minna and 27 from Niger State College of Education, Minna. Total population sampling technique was used to select the whole population of the study. The study utilized a structured questionnaire as instrument for data collection. Cronbach Alpha method was used to determine the reliability of the instrument and found to be .88 and .91 respectively. The study employed the use of mean to answer the research questions and z-test to test the null hypotheses. Findings revealed cancelling assembly, closing of playground, shortening school days per week: 3 days instead of 5, cancelling fieldtrips, cancelling afterschool activities, reducing school activity calendar, altering school schedules to prevent mixing and limiting access to visitors from outside the school environment were school-based social distancing practices for curbing the transmission of COVID-19 from technology education lecturers' perception. The study recommended that, Nigerian Federal Ministry of Education should incorporate into the guidelines for school reopening the identified school-based social distancing practices for curbing the transmission of COVID-19.

Keywords: Corona Virus Disease, Social Distancing & Technology Education Lecturers

INTRODUCTION

Coronavirus disease (COVID-19) is an infectious disease caused by a newly discovered coronavirus. The COVID-19 is known to cause illness ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS) (American Academy of Family Physicians, 2019). According to World Health Organization (2020), the COVID-19 spreads primarily through droplets of saliva or discharge from the nose when an infected person coughs or sneezes. In an attempt to contain the spread of COVID-19, most governments around the world have temporarily closed educational institutions such as school.

School is socially dense environments where students congregate for many hours of the day striving to achieve a certain goal. School closure policies met with heavy criticism from the public within and outside Nigeria due to the associated loss of productivity. Sadique et al. (2020) indicated that, school closure during pandemic such as COVID-19 could have a negative economic impact and thus, it is potentially a costly intervention for countries to impose. Although, research is still being conducted on the issue, it is unclear how beneficial school closure is with regard to slowing or curbing the transmission of COVID-19 pandemic on local and national scales. In fact, the efficacy of school closure at preventing disease spread is unknown in general because school closure is often confounded by increased circulation of children outside of school which is difficult to handle (Chao, Halloran & Longini, 2019). In the management of COVID-19 pandemic, it will often be prudent to employ procedures and interventions that will ensure or create conditions of social distancing.

Social distancing is deliberately increasing the physical space between people to avoid spreading illness. Hensley (2020) described social distancing as a set of non-pharmaceutical interventions or measures taken to prevent the spread of contagious disease such as COVID-19 by maintaining a physical distance between people and reducing the number of times people come into close contact with each other. It involves keeping a distance of six feet (two meters) from others and avoiding gathering together in large groups. According to Chen et al. (2020), social distancing is the most effective strategy to reduce the transmission of COVID-19. Social distancing seeks to reduce the effective number of contacts between individuals within a community, and have been shown via post hoc analysis to ameliorate the impacts of previous influenza pandemics, e.g., the 1918 Spanish influenza pandemic (Halder et al., 2010). School-based social distancing practices could potentially protect large numbers of students, as well as limit secondary transmission if identified by educational experts such as technology education lecturers.

Technology education lecturers are professionals in the Universities, Colleges of Education or Polytechnics that acquired academic training in teaching the subject matter of any aspect of technical education. Adewumi (2012) described technology education lecturers as dynamic leaders with the capacity to prepare future leaders by equipping them with the right attitudes, knowledge and skills needed to succeed as self-employed or employee in the world of work. These individuals possess the requirements to solve school-based challenges that include the novel COVID-19 by offering professional guidance on intervention such as social distancing practices. According to Ridenhour et al. (2020), the perception of educational experts such as technology education lecturers on school-based social distancing practices have the capacity to curb the transmission of COVID-19 in schools. Hence, this study sought to identify the perception of technology education lecturers on school-based social distancing practices for curbing the transmission of COVID-19 in Niger State.

STATEMENT OF THE PROBLEM

School is a social structure designed to provide essential teaching and learning services aimed at training students with the right attitudes, knowledge and skills to function productively in the society. School closures due to the novel COVID-19 carry high social and economic costs for people across communities. According to UNECSO (2020), the nationwide closures of schools is impacting over 89% of the world's student population. However, the impact of school closure is particularly severe for the most vulnerable and marginalized learners who tend to have fewer educational opportunities beyond school. When schools shut down, more children are recruited into militias, sexual exploitation of girls and young women rises, teenage pregnancies become more common, and child labour grows (Uscher-Pines, 2018). In the absence of alternative options, working parents often leave children alone when schools close and this can lead to risky behaviours, including increased influence of peer pressure and substance abuse. Ridenhour et al. (2020) noted that, by utilizing school-based interventions, social and economic losses can be minimized, thereby reducing concerns regarding the transmission of COVID-19. To the best knowledge of the researchers, no effort was channel towards identifying school-based social distancing practices for curbing the transmission of COVID-19 in Nigeria or elsewhere. Hence, the study aimed at identifying technology education lecturers' perception on school-based social distancing practices for curbing the transmission of COVID-19 in Niger State, Nigeria.

AIM AND OBJECTIVES OF THE STUDY

The aim of the study was to identify the perception of technology education lecturers on school-based social distancing practices for curbing the transmission of COVID-19 in Niger State, Nigeria. Specifically, the objectives of the study sought to identify the:

1. Perception of technology education lecturers on school-based social distancing practices to be adopted by school heads for curbing the transmission of COVID-19
2. Perception of technology education lecturers on school-based social distancing practices to be adopted by teachers for curbing the transmission of COVID-19

RESEARCH QUESTION

The following research questions were raised and answered:

1. What are the perceptions of technology education lecturers on school-based social distancing practices to be adopted by school heads for curbing the transmission of COVID-19?
2. What are the perceptions of technology education lecturers on school-based social distancing practices to be adopted by teachers for curbing the transmission of COVID-19?

HYPOTHESES

The following null hypotheses were stated and tested at .05 level of significant:

HO₁: There is no significant difference between the mean responses of universities and colleges of education technology education lecturers on school-based social distancing practices by school heads for curbing the transmission of COVID-19

HO₂: There is no significant difference between the mean responses of universities and colleges of education technology education lecturers on school-based social distancing practices by teachers for curbing the transmission of COVID-19

METHODOLOGY

The research design used for this study was the descriptive survey research design. Mulki et al. (2016) defined descriptive survey research design as design aimed at casting light on current issues or problem through a process of data collection. The study was carried out in Niger State, Nigeria. The population of the study consisted of 52 technology education lecturers, 25 from Federal University of Technology, Minna and 27 from Niger State College of Education, Minna. Total population sampling technique was used to select the whole population of the study. The study utilized a structured questionnaire as instrument for data collection. The instrument was a structured designed on five points rating scale of Strongly Agree (SA), Agree (A), Disagree (DA), Strongly Disagree (SD) and Undecided (UD) with numerical values of 5, 4, 3, 2, and 1, respectively. The instrument contained two sections, A, and B. Section A comprises perceptions of technology education lecturers on school-based social distancing practices by school heads for curbing the transmission of COVID-19 and section B comprises of perceptions of technology education lecturers on school-based social distancing practices by teachers for curbing the transmission of COVID-19. Cronbach Alpha method was used to determine the reliability of the instrument and found to be .88 and .91 respectively. The study employed the use of mean to answer the research questions using Statistical Package for Social Sciences version 22. and z-test to test the null hypotheses using GraphPad online Z-test calculator. Decision on research questions was based on real limit of numbers while decision on the hypotheses was based on comparing Z-value with P-value.

RESULTS

Research Question One

What are the perceptions of technology education lecturers on school-based social distancing practices to be adopted by school heads for curbing the transmission of COVID-19?

Table 1: Mean Responses of Universities and Colleges of Education Technology Education Lecturers on School-Based Social Distancing Practices to be Adopted by School Heads for Curbing the Transmission of COVID-19
N1=25, N2=27

S/N	Items	$\bar{X}_1$	$\bar{X}_2$	$\bar{X}_A$	Remark
1.	Avoiding students' congregation during laboratory/workshop activities	3.84	4.00	3.92	Agreed
2.	Dividing classes into smaller groups	3.96	4.14	4.05	Agreed
3.	Moving desks apart	3.88	4.03	3.96	Agreed
4.	Cancelling classes that bring together students from different classrooms	4.04	4.14	4.09	Agreed
5.	Rearranging classroom to keep students further apart	3.84	4.03	3.94	Agreed
6.	Limiting group activities and interaction between classes	4.08	4.14	4.11	Agreed
7.	Holding classes outdoors	3.88	4.11	4.00	Agreed
	Grand Means	**3.93**	**4.08**	**4.01**	**Agreed**

Keys: N₁ = Numbers of universities technology education lecturers, N₂ = Numbers of universities and colleges of education technology education lecturers, $\bar{X}_1$ = Mean of universities technology education lecturers, $\bar{X}_2$ = Mean of colleges of education technology education lecturers, $\bar{X}_A$=Average mean of universities and colleges of education technology education lecturers.

Research Question Two

What are the perceptions of technology education lecturers on school-based social distancing practices to be adopted by teachers for curbing the transmission of COVID-19?

Table 2: Mean Responses of Universities and Colleges of Education Technology Education Lecturers on School-Based Social Distancing Practices to be Adopted by Teachers for Curbing the Transmission of COVID-19   **N1=25, N2=27**

S/N	Items	$\overline{X}_1$	$\overline{X}_2$	$\overline{X}_A$	Remark
8.	Cancelling assembly	4.08	4.29	4.19	Agreed
9.	Closing of playground	4.04	4.22	4.13	Agreed
10.	Shortening school days per week: from 5 days to 3	4.20	4.29	4.25	Agreed
11.	Cancelling fieldtrips	4.24	4.18	4.21	Agreed
12.	Cancelling afterschool activities	4.04	4.11	4.07	Agreed
13.	Reducing school activity calendar	3.92	4.07	4.00	Agreed
14.	Altering school schedules to prevent mixing	3.92	4.22	4.07	Agreed
15.	Limiting access to visitors from outside the school district	3.92	3.96	3.94	Agreed
16.	Limiting travel within the school district	4.04	4.14	4.09	Agreed
17.	Discouraging face-to-face meetings in schools until pandemic conditions are lifted	3.80	4.00	3.90	Agreed
18.	Cancelling all extra-curricular activities	4.12	4.18	4.15	Agreed
	Grand Means	**4.02**	**4.15**	**4.09**	**Agreed**

Hypothesis One

HO₁: There is no significant difference between the mean responses of universities and colleges of education technology education lecturers on school-based social distancing practices to be adopted by school heads for curbing the transmission of COVID-19

Table 3: Z-test Analysis for the Test of Significant Difference Between the Mean Responses Universities and Colleges of Education Technology Education Lecturers on School-Based Social Distancing Practices to be Adopted by School Heads for Curbing the Transmission of COVID-19

Respondents	N	$\overline{X}$	SD	df	Z-value	P-value	Remark
University Lecturers	25	3.93	0.56	50	0.97	0.33	Not Significant
College of Education Lecturers	27	4.08	0.55				

Table 3 revealed that the p-value is greater than .05, which implies that there is no significant difference between the mean responses of universities and colleges of education technology education lecturers on school-based social distancing practices to be adopted by school heads for curbing the transmission of COVID-19. Hence, hypothesis one was retained.

Hypothesis Two

HO₂: There is no significant difference between the mean responses of universities and colleges of education technology education lecturers on school-based social distancing practices to be adopted by teachers for curbing the transmission of COVID-19

Table 4: Z-test Analysis for the Test of Significant Difference between the Mean Responses Universities and Colleges of Education Technology Education Lecturers on School-Based Social Distancing Practices to be adopted by Teachers for Curbing the Transmission of COVID-19

Respondents	N	$\overline{X}$	SD	df	Z-value	P-value	Remark
University Lecturers	25	4.02	0.55	50	0.86	0.39	Not Significant
College of Education Lecturers	27	4.15	0.54				

Table 4 revealed that the p-value is greater than .05, which implies that there is no significant difference between the mean responses of universities and colleges of education technology education lecturers on school-based social distancing practices to be adopted by teachers for curbing the transmission of COVID-19. Hence, hypothesis two was retained.

FINDINGS

1. Cancelling assembly, closing of playground, shortening school days per week: 3 days instead of 5, cancelling fieldtrips, cancelling afterschool activities, reducing school activity calendar, altering school schedules to prevent mixing and limiting access to visitors from outside the school environment. Moreover, limiting travel within the school environment, discouraging face-to-face meetings in schools until pandemic

conditions are lifted and cancelling all extra-curricular activities were found to be the school-based social distancing practices to be adopted by school heads for curbing the transmission of COVID-19.

2. Avoiding students' congregation during laboratory/workshop activities, dividing classes into smaller groups, moving desks apart, cancelling classes that bring together students from different classrooms, rearranging classroom to keep students further apart, limiting group activities and interaction between classes and holding classes outdoors were found to be the school-based social distancing practices to be adopted by teachers for curbing the transmission of COVID-19.

3. There is no significant difference between the mean responses of universities and colleges of education technology education lecturers on school-based social distancing practices to be adopted by school heads for curbing the transmission of COVID-19.

4. There is no significant difference between the mean responses of universities and colleges of education technology education lecturers on school-based social distancing practices to be adopted by teachers for curbing the transmission of COVID-19.

DISCUSSION OF FINDINGS

Findings on the school-based social distancing practices to be adopted by school heads for curbing the transmission of COVID-19 revealed: cancelling assembly, closing of playground, shortening school days per week: 3 days instead of 5, cancelling fieldtrips, cancelling afterschool activities, reducing school activity calendar, altering school schedules to prevent mixing and limiting access to visitors from outside the school environment. Moreover, limiting travel within the school environment, discouraging face-to-face meetings in schools until pandemic conditions are lifted and cancelling all extra-curricular activities. This implies that, curbing the transmission of COVID-19 in schools could be achieved by school heads adopting the identified school-based social distancing practices. The finding is in agreement with the guidelines of Haber et al. (2017) on the effectiveness of interventions to reduce contact rates during a simulated influenza pandemic that included limiting travel, access to visitors and discouraging face-to-face meetings. The findings pointed out in clear terms the school-based social distancing practices for curbing the transmission of COVID-19 and could be of high educational relevance if incorporated into a guideline to be adopted by school heads.

Furthermore, the Z-test analysis for the test of significant difference between the mean responses of universities and colleges of education technology education lecturers on school-based social distancing practices to be adopted by school heads for curbing the transmission of COVID-19 revealed statistically no significant different. This implies that, both universities and colleges of education technology education lecturers shared similar view point on the school-based social distancing practices to be adopted by school heads for curbing the transmission of COVID-19. This finding is in harmony with the finding of Tuite et al. (2010) that revealed no significant difference between the responses of private and public medical practitioners on assessing parameters and disease associated with pandemic. The none significant difference between the mean responses of universities and colleges of education technology education lecturers could be due shared similarities in their profession.

Findings on the school-based social distancing practices to be adopted by teachers for curbing the transmission of COVID-19 revealed avoiding students' congregation during laboratory/workshop activities, dividing classes into smaller groups, moving desks apart, cancelling classes that bring together students from different classrooms, rearranging classroom to keep students further apart, limiting group activities and interaction between classes and holding classes outdoors. This implies that, lowering the transmission of COVID-19 in schools could be accomplished by teachers adopting the identified school-based social distancing practices. The findings concords with the guidelines of Johnson et al. (2020) that revealed, avoiding congregation, cancelling activities that bring together crowd of individuals, limiting group activities and interaction as well as holding events outdoors as social distancing practices for managing the transmission of COVID-19. The findings clearly identified the school-based social distancing practices to be adopted by teachers for curbing the transmission of COVID-19 and could be of high educational relevance if incorporated into a guideline to be adhered by teachers.

Additionally, the Z-test analysis for the test of significant difference between the mean responses of universities and colleges of education technology education lecturers on school-based social distancing practices to be adopted by teachers for curbing the transmission of COVID-19 revealed statistically no significant different. This indicated that, both universities and colleges of education technology education lecturer's holds similar opinion on the school-based social distancing practices to be adopted by school heads for curbing the transmission of COVID-19. This finding is related to the finding of Jackson et al. (2014) that shown no significant difference between the responses of male and female teachers on the effects of school closures on influenza outbreaks and pandemics. Nevertheless, the none significant difference between the mean responses of universities and colleges of education technology education lecturers on school-based social distancing practices could be due to the similarity in their professional experiences.

CONCLUSIONS

Based on the findings from the study, it is concluded that insight into the school-based social distancing practices for curbing the transmission of COVID-19 from technology education lecturers' perception in Niger State, Nigeria is provided. The study revealed not significant difference between the mean responses of University and College of Education technology education lecturers on school-based social distancing practices for curbing the transmission of COVID-19. The results of this study are particularly important for the development of effective guidelines to be adopted by school heads and teachers in decreasing COVID-19 transmission in schools.

RECOMMENDATIONS

Based on the findings from the study, the following recommendations were made:

1. Nigerian Federal Ministry of Education should incorporate into the guidelines for school reopening the identified school-based social distancing practices for curbing the transmission of COVID-19.
2. School heads and teachers should adopt the identified school-based social distancing practices in order to curb the transmission of COVID-19.

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