

Knowledge of Senate Committee Members on Health and Safety Effects of an Overcrowded Classroom in Nigerian Public Universities

By

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Abstract

Due to the high desire for Nigerian citizens to acquire university degrees for the main purpose of better employment; and due to liberalization of education policies; high admission rates now manifest in our universities. The enrolment figures are often higher than the carrying capacities in certain key academic programmes, triggering high incidences of overcrowded classroom populations. The negative health and safety effects of an overcrowded classroom cannot be over-emphasized among the students and lecturers. It is a descriptive survey design study that made use of a sample population of 200 senate committee members across 30 public universities in Nigeria, which were contrived through a convenience random sampling technique. The population size of the Senate committee members for the study was 925. Questionnaires were administered to the senate committee members and their responses were retrieved and analyzed statistically by making use of the mean to give answers to two research questions, while the Z-test was used for two hypotheses. On the whole, it was found out that the senate committee members on the over-view have good knowledge of the hazards of an over-crowded classroom, as well as the epidemics that could exist therein. It was recommended among others that senate committee members in consonance with the National University Commission should limit the population of students' environment to suit the carrying capacity of the classrooms. Stick to the standard number of students per classroom learning, and rationalize the number of lecturers for every foundation, general studies, and borrowed courses, that have an over-populated student ratio.

Keys: Public, Universities, Senate, Committee, Overcrowded, Classrooms.

Introduction

It is now a common sight to see learning taking place in an exploded classroom of about 250 to 300 students' population in many of our universities today. The scenario is so alarmingly disgusting to the extent that some students either stand, sit on the dilapidated window edge, or peep from outside the classroom windows to participate in learning. The consequences of such an ugly event seem not to perturb the university management and other stakeholders; either due to ignorance or because all they want is: teaching and learning must go ahead, no matter what.

The question here is, is an overcrowded classroom effective for standard pedagogical communication? NO! is the answer. Obasi (2004) stressed that if communication is not well-

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managed in any organization, conflict may result. An overcrowded classroom in tertiary institutions of learning is a classroom population of students that underscores the maximal population standard index (MPSI) FOR PROPER teaching and learning activities. Alaneme (2012) remarked that standards are required to control and minimize health and safety risks. An overcrowded classroom borders on institutional infraction on the health and safety of the occupants. The students and pedagogues in this case.

Theoretical Framework

The concept of the Reciprocal Determinism Theory of Bandura (1982, 1986), which was reported by Tones, (2001:7) sheds more light on this study. The theory states that people's capacity for action, and ultimately their health, is determined by the nature of their environment. On that note, learning and teaching interactions in overcrowded classrooms are bound to be determined by the poor classroom's overcrowded environment, which negates quality productivity. Public universities are owned by the government, either state or federal government. The Senate committee members are the policymakers and managers of the university.

Review of Related Literature

When Lale (2024:29) asserted that it is the quality, not the number, of graduates that build a virile alumni community that eventually escalates the university profile, he stated the obvious. Over-admitted students population leads to overcrowded classrooms, which in turn create doom to thorough academic exercise and a poor didactic output. Hence, he stated that worrisome stories of dereliction of duty, exchange of marks, grades, or class of degrees for money or sex, examination misconduct, cultism, plagiarism, and all sorts of other infractions are rife in many public universities. It is a truth that human nature, in most cases, when faced with failure due to poor teaching and learning environment may seek an escapist's way out. Hence, education productivity becomes corrupted.

An over-crowded classroom can result in poor classroom control as the students may be restless due to compacted and uncomfortable sitting, and poor ventilation with extreme temperatures. These according to Agabi (2002) give birth to persistent noise in the classroom. Hence, Shamusideen (2011) instructed that we need to ensure that the working environment is not too hot, too cold, or too uncomfortable. These can lead to serious indoor air pollution in the class. World Health Organization (WHO) (2001) reported that urban indoor air pollution, worldwide, kills about 600,000 people annually. This is so exacerbating and exasperating when we learn from Murray and Zentner (1985) who posited that various indoor air pollutants

exist in the form of radon, radium, nitrogen-oxide, carbon dioxide, and carbon monoxide, due to obstruction and lack of ventilation. Most of these indoor air pollutants cited above are carcinogenic by nature, and some are naturally and generously emitted indoors without proper ventilation. There is often polluted air from humans and disrupted air flow in an overcrowded classroom. The concept of indoor air pollution is defined by Onumbu (2012) and is adopted here as the deleterious and frosty atmosphere condition of a room, which could be caused by poor ventilation and the presence of a hazardous or offensive substance.

In an overcrowded classroom, students emit high doses of bad odours which affect the air quality, often emanating from perspiration, farting, stinking clothes, and all that. Magaji and Hassan (2015) opined that breathing polluted air all year round can shorten life by one to three years and also damage our environment. Onumbu (2012) found out that both shop occupants and their land lords did not know that a shop, as a room, emits dangerous gases to the air. Obed-Ojukwu and Olusanya (2023) discovered that extreme temperatures could cause bodily harm, in this case, for both the lecturers and the students in the class.

An overcrowded classroom is a berth for a host of communicable diseases such as; eczema, MPOX (monkey pox), Ebola, tuberculosis, Covid 19, (corona virus disease), et cetera. Eyo (2002) reported that where people live, work, play, or go to school close together, there is a chance they might get head lice. He continued that lice can spread quickly by crawling from one person's head to another, or onto clothing or furniture that touches a person's head. The learners are often closely located in such a room.

In light of the above, Wodi (2024) highlighted that as humans continue to interact with their environments, they are inevitably pre-disposed to frightening morbidity and avoidable mortality rates, arising from extreme heat epidemics. He continued that in sub-Saharan Africa, environmental factors were responsible for about 15 percent disease burden. In the same vein, ThankGod (2024) stressed that a healthy environment is crucial to promoting good health and well-being and could prevent almost one-quarter of the global disease burden on humans. He pointed out that an environment that is polluted by noise and extreme temperature can increase health risks on a global scale.

An overcrowded classroom is often noisy and more difficult to control which affects classroom productivity. It constitutes a great health and safety management puzzle. An overcrowded classroom, laboratories and other theatres of learning can become sources of hazards and accidents. Hence Obed-Ojukwu and Olusanya (2023) reported that many laboratories still had accidents and injuries which many students suffered from. Cases of spilled liquid

splashes, falls from heights, hits at, trips and falls and some other accidents cannot be ruled out in overcrowded learning rooms. Of course, these circumstances have very serious implications for proper teaching and learning dispositions in the short-term, and failure in quality assurance of the universities, polytechnics, or colleges; as the case may be; in the long term.

Federal government of Nigeria (FGN) (2004) suggested that a standard classroom population index should not be more than 40 to 50 students per classroom for a proper teaching process. Unfortunately, due to mainly adverse pecuniary interests of university administrators and lack of running of certain programmes in the universities, most classrooms are not only thickly populated but literally exploding every year. From observations, most of these over-crowded classrooms occur in mainly General Studies (G.S.) courses, Foundation studies courses, borrowed non-departmental courses, and in ‘hot-cake’ school departments (programmes) like law, medicine, computer studies, management sciences, and engineering.

Tabontndip et al (2007) remarked that employment was succinctly general in traditional societies to the effect that there was nothing like unemployment. They continued that in the advent of Western education, in the year 1842 in Nigeria, employment became based on graduation from Western-style institutions of learning; without adequate modern or Western education skills, no employment to most of the citizens of Nigeria. Hence, there was this mad rush for Western education which led to over-employment and classrooms’ population explosion. The implementation models for effective university admissions policies should be devoid of social status/political power influence and be directed to the NUC guidelines in Nigeria. Onyedeji (2011) stressed that universities should devise high strategies based and the implantation of the same, such as admission based on carrying capacity, continuous use of JAMB to check multiple admissions, and making JAMB result a statutory result; he recommended.

“Of the number of candidates applying for admission every year in Nigeria, only about 5.2% to 15.3% get admitted, which inversely translates to about 84.7% to 94.8% of the candidates seeking admissions not being admitted into Nigerian universities. The lower percentage of access to university education in Nigeria is attributed to the problem of low carrying capacities in existing universities: infrastructural/facilities challenge, Onyedeji (2011) FRN (2004) stressed that out of thousands who may be qualified in the liberal arts, only forty percent (40%) will be admitted. This implies that there is suffocation of standardly stipulated

admission quota for universities admission due to over-demand and supply principles in the scheme of things.

In castigation of the evils of over-populated classrooms in our universities, Brown and Nwogu (2018) lamented that “the implantation of admission policies in the system has also remained an issue of concern even in the face of population explosion and crazy zeal to acquire degree certificate”. They continued by stating that university admissions have become one of the most challenging issues in universities administration in Nigeria. So what do we do?

There should be an evolved standardized strategy for bringing classroom populations to a minimal acceptable standard for effecting teaching and learning by the stakeholders which include the government through National Universities Commission (NUC), universities administrators and programme professional bodies or associations.

Public universities are sampled for this study because it is often a grassroots university with undue communal and political influences keyed into the admission quotas.

To mitigate against over-population of classrooms, this study suggests that the following admission quotas for each programme should be based on standard policies of not more than 50 persons per class. More lecturers should be employed on foundational areas or certain borrowed courses to subdivide a student's population into different groups for a team-teaching technique on the same syllabus without the lecturers sharing the course outlines. Additionally, more classrooms, laboratories, or workshops should be provided by the management for this sub-grouped class populations team-teaching.

Statement of problem

With the advent of over-enrolment of students in tertiary institutions of learning, most classrooms are now replete with over-crowded populations. Such a scenario creates some untoward harmful effects to both students and lecturers in form of heat stress due to improper ventilation, accidents during indoor movements, inhalation of foul air, noisy classroom, croaky voices in shouting for the students to hear, ergonomic

hazards, biological and other physical hazards. Most student late comers to such classrooms typically do not hear the lecturers well due to distance in audibility, some of which may fail the courses or resort to score grades for money (called sorting in academic parlance) or sex for marks. Such an environment is endowed with cheating in tests or examination conditions.

It is assumed that if the managers of the universities (the Senate committee members) know much about health and safety consequences of an over-crowded classroom, they may do much to ameliorate such phenomenon when making policy decisions regarding admission matters.

Aim of the study

This study is aimed at assessing the knowledge level of university administrators in these public universities on the health and safety implications of over-crowded classrooms to the occupants.

Materials and method

A descriptive survey design was used for the study. Leigha (2007) stated that descriptive design was found to be appropriate because it involved a description of already existing phenomena. Nigeria has 110 public universities, according to Lale (2023), including federal and state universities. Through a process of convenience sampling technique, a total of 30 universities were randomly sampled for study; 15 federal and 15 state universities. A preliminary survey of the Senate committee members of the universities showed a population of 925 Senate committee members; source: the universities' personnel department. Out of this population, 200 senate members were targeted and sampled for study through convenience sampling technique. They were sampled at random from the 30 universities. Questionnaire items, tagged knowledge of health and safety effects of over-crowded classrooms in Nigerian public universities among senate committee members (KHSEONPUSCM) were contrived and distributed to the respondents. The questionnaires were retrieved and analyzed by making use of the mean for the research questions and Z tests for the hypotheses, which were formulated at 0.05 alpha level.

"The test-retest method was used to test the reliability of the instruments and they were analyzed by using the Pearson Product Moment Correlation statistics reliability coefficient (r) of 0.86 was obtained. Experts in the Department of Human Kinetics, Health, and Safety Studies of Ignatius Ajuru university of education, Rumuolumeni, Port Harcourt vetted the questionnaire items and found the instrument valid.

Research Questions

The following research questions were tested for the study.

1. What are the Senate committee members knowledge on the hazards of an over-crowded classroom in Nigerian public universities?

2. What are the Senate committee members knowledge on the epidemics that can be contacted from an overcrowded classroom in the public universities?

Research Hypotheses

The following research hypotheses were passed for the study.

1. There is no significant difference in the knowledge of male and female Senate committee members on what constituted hazards in overcrowded classrooms in the public universities, at 0.05 level of significance.
2. There is no significant difference in the knowledge of male and female senate committee members on the types of epidemics that can be contacted from an overcrowded classroom in the public universities, at 0.05 level of significance.

Result

Research Question I : What are the Senate committee members Knowledge on the hazards of an overcrowded classroom in Nigerian public universities?

Table 1: The Senate committee members knowledge on the hazards of an overcrowded classroom in Nigerian public universities.

	Knowledge of SCM on Response					TOTAL	Mean	S.D	Decision
S/N	Overcrowded classroom hazards						\bar{x}	r.	
		SA	A	D	SD				
		4	3	2	1				
1.	Pains from poor sitting posture	95	35	30	40	200	2.93	0.81	Accepted
2.	Can hit at seats	130	55	15	-	200	3.58	0.24	Accepted
3.	Poor hearing of lesson	85	45	70	-	200	2.98	0.56	Accepted
4.	Excess heat stress	67	73	60	-	200	2.89	0.30	Accepted
5.	Indoor air pollution (foul odour)	79	71	78	22	200	3.04	0.38	Accepted
6.	Chemical splashes in the laboratories.	67	73	30	30	200	2.89	0.30	Accepted

Standard reference mean \bar{x} = 2.50

Table 1 shows that at mean ratings of 2.93, 3.58, 2.98, 3.04 and 2.89 respectively which are greater than the standard means of 2.50. The indication is that all the Senate committee members of the public universities knew that the above stated items were the hazards of an overcrowded classroom in Nigerian public universities. However, a higher majority of them (185) accepted that one can hit one's legs at the seat while moving in an overcrowded classroom.

Research Question 2. What are the Senate committee members knowledge on the epidemics that can be contacted from overcrowded classrooms in the public universities?

Table 2: Knowledge of the senate committee members on the epidemics that can be contacted from an overcrowded classroom in the public universities.

S/N	Knowledge of SCM on the epidemics that can be contacted in the classroom	RESPONSES				TOTAL	Mean \bar{X}	S.D r.	Decision
		SA	A	D					
		SD							
		4	3	2	1				
1.	Exposed to tuberculosis	157	33	10	-	200	3.74	0.24	Accepted
2.	Exposed to COVID 19	50	40	10	100	200	2.20	0.56	Rejected
3.	Exposed to Eczema	76	44	45	35	200	2.81	0.81	Accepted
4.	Exposed to Mpox disease	95	45	35	25	200	3.05	0.30	Accepted
5.	Exposed to small pox disease	180	20	-	-	200	3.90	0.38	Accepted
6.	Exposed to chicken pox disease	180	20	-	-	200	3.90	0.38	Accepted

Standard Reference mean = 2.50

Table 2 indicates that mean ratings of 3.74, 2.81, 3.05, 3.90 and 3.90 respectively are greater than the standard reference mean of 2.50. It shows that in the majority, the senate committee members had the knowledge that those epidemics in the items listed can be contacted in an overcrowded classroom in public universities on Nigeria. In this case, the students are the most easily affected because of the compacted sitting arrangement. However, the majority of the respondents rejected that COVID 19 can be acquired in an overcrowded classroom. Possibly, this position might have been drawn from the very low mortality

incidence of the epidemics in Nigeria when it was reported and the fact that many never believed it existed in the first place.

Research Hypothesis 1: There is no significant difference in the knowledge of male and female Senate committee members on what constituted hazards in an overcrowded classroom in the public universities, at 0.05 level of significance.

Table 3: Z-test difference in the mean ratings, on the knowledge of male and female senate committee members on the hazards of an overcrowded classroom in Nigerian universities, at 0.05 level of significance.

Group	Mean	S. D	n	df	Std	Z.cal	Z.tab	Decision
	\bar{x}				Err			
Male SCM	3.09	0.67	200	218	0.01	1.43	1.96	Accepted
Female	2.95	0.63						
SCM								

Table 3 shows that the null hypothesis on Z-test of difference in the mean ratings of the male and female Senate committee members. On their knowledge on the hazards of an overcrowded classroom in public universities, at 0.05 level of significance is accepted. The calculated means, at 3.09 and 2.95, gave a calculated Z test which is less than the 1.96 tabulated.

Research Hypothesis 2: There is no significant difference in the knowledge of male and female Senate committee members on the types of epidemics that can be contacted from an overcrowded classroom in the public universities.

Table 4: Z-test difference in the mean ratings on the knowledge of male and female Senate committee members on the types of epidemics that can be contacted from an overcrowded classroom in the public universities.

Group	Mean	S.D	n	df	Std	Z.cal	Z.tab	Decision
	\bar{x}				Err			
Male SCM	3.27	0.84	200	218	0.087	1.67	1.96	Accepted
Female	3.02	0.75						
SCM								

Table 4. shows that at mean 3.27 and 3.02. The null hypothesis on Z-test of difference in the mean ratings of knowledge of the SCM on the epidemics that can be contacted from an

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overcrowded classroom in public universities at 0.05 level of significance is accepted. This means that all the senate committee members accepted that those epidemics on the table items can be contacted by the occupants of the classroom. The Z. Calculated at 1.67 is less than 1.96 Z tabulated, therefore we accept the null hypothesis.

Discussion of Findings

From the findings of this study, it was found out that all the Senate committee members of the publishing universities in Nigeria accepted that they had knowledge of the hazards that may exist in an overcrowded classroom. At the mean items of 2.93, 3.58, 2.98, 3.04 and 2.89, it is apparent that the Senate committee members were homogenous in their knowledge of occupational hazards that existed in their overcrowded classrooms. It is possible there are other factors that hindered them from making better policies on university admission which could have encouraged enrolment of moderate students' population to discourage overpopulated classrooms. The hazards for the health and safety of the occupants, including lecturers, at 0.05 level of significance. It was also observed that there was no significant difference in the knowledge of senate committee members on the hazards of an overcrowded classroom, since Z. calculated at 1.43 was less than 1.96 Z tabulated; thus, the null hypothesis was accepted. Hence, Shamusideen (2011) recommended that we need to take care that the working environment is not too hot or too cold or uncomfortable. The findings indicated among other things that the over-crowded classroom environment was malodorous and poorly ventilated, hot, and accident friendly, which confirms the assertions of Murray and Zentner (1985), Onumbu (2012) and Magaji and Hassan (2015).

The study showed that the majority of the Senate committee members had knowledge of the epidemics that students could be exposed to in an overcrowded classroom, since the mean ratings were higher than the reference mean of 2.50. Also, at Z-tabulated of 1.96, Z. calculated was 1.67 which proved that there is no significant difference in the knowledge of the Senate committee members on what could constitute epidemics in an overcrowded classroom in the universities.

The findings of the study indicate that the Senate committee members and the national university commission (NUC) should devise strategies that are devoid of undue manipulation.

This would sustain a standardized carrying capacity that would have high health and safety incidences' resistance.

Conclusion

From the findings of the study, it was shown that the senate committee members have good knowledge of the hazards and health risks that are replete in an overcrowded classroom in public universities. However, there may be some extraneous political, financial and moral factors that impede on the management not to ameliorate the situation.

Recommendations

Based on the findings, the following recommendations were made:

1. More lecturers should be employed to teach foundational and general studies courses at a standard ratio to meet the requirements of not more than 50 students' population at a time for a lecturer.
2. A very large class should be subdivided to encourage the small ratio of 50 students per class, but each lecturer is to administer the same lesson from the syllabus to each group.
3. Universities should discourage introducing new academic programmes as against the existing classroom facilities. No proliferation of course programmes.
4. Admission policies should be based on the carrying capacities of the various universities.

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