EFFECTS OF LARGE CLASS SIZE ON CLASSROOM MANAGEMENT PRACTICES: A CASE STUDY IN GHANAIAN SENIOR HIGH SCHOOLS

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Abstract: The study sought to find out views of Ghanaian senior high schools (SHS) science teachers and SHS science students on the effects of large class size on the classroom management practices in schools. A descriptive survey was the research design used for this study. A total of 50 respondents made up of 30 SHS science teachers and 20 SHS elective science students were used for the study. Questionnaire and interview were the two (2) instruments used for the study. The findings showed that majority of students (18 out of 20) representing 90% agreed that their science classes were huge and overcrowded making effective classroom management practices very difficult. Almost all the science teachers (29 out of 30) representing 96.7% vehemently agreed that large class sizes have direct effect on the effective classroom management practices and that it was easy to manage and instil disciplinary actions in smaller size class than in larger size classes. However, 2 science teachers representing 6.6% strongly believed that large class sizes have no direct effects on effective classroom management practices, and that with better managerial knowledge and skills, a teacher can implement an effective classroom management practices. It was recommended that the study should be replicated in other parts of the country Ghana or elsewhere using a much larger sample.

Keywords: - Large class size, effects, classroom, management, practices, teaching.

I. INTRODUCTION

Ghana’s educational system has undergone several metamorphoses through various educational reforms and Acts since its independence in 1957. The current operational Act, Education Act 778 (2008) puts Ghana’s educational system on three (3) progressive levels namely Basic education, secondary education and tertiary education.

The Basic education which is compulsory, consists of (2 years kindergarten; 6 years primary school; 3 years Junior High school- JHS), 3 years secondary education (now senior high school-SHS) and 4 years tertiary education (colleges of education, polytechnics-now technical universities and universities). The objective of this Act is to provide an educational system intended to produce well-balanced individuals with the requisite knowledge, skills, values and attitudes to become functional and productive citizens for the total development and democratic advancement of the nation (Ministry of Education (MOE), 2017). To achieve this laudable objective, it is the responsibility of the Ghanaian society to provide quality education to all its citizens through effective teaching and learning.

In this line of reason, the big question that comes into one’s mind is how could effective teaching and learning be achieved in schools especially in science classrooms?. Studies by (Marzano, 2003; Jones & Jones, 2012) opined that effective science teaching and learning cannot take place in poorly managed classrooms. Marzano (2003) on his part, stated that science teacher as the class manager, is expected to lead and manage the classroom environment to ensure effective teaching and learning process. Brown (1997) also reported that effective science classroom management practices are very crucial to the understanding of various scientific concepts. These statements imply that effective science classroom management practices facilitate effective teaching and learning.

Korpershoek, Harms, de Boer, van Kuijk and Doolaard (2014) mentioned that classroom management practices are tools that the teachers can use to create activities ranging from improve teacher-student
relationships to rules to regulate student behaviour. Studies by (Rydell & Henricsson, 2004; Woodcock & Reupert, 2012; Korpershoek et al., 2014) reported that classroom management practices include class control, assigning rules, procedures to facilitate cooperative learning, assignment of class responsibilities to students, marking registers, supervising individual or group learning and among many others.

In Ghana, SHS education is very critical since it provides access for its graduate to enter tertiary education or enter the job market. In support of this statement, Achoka, Odebero, Maiyo and Mualuko (2007) stated that secondary education is an important sector in national and individual development. In order to ensure national and individual development, there is the need to remove the barriers especially financial barrier that prevents JHS students from accessing secondary education.

For some time now, SHS education in Ghana was not “free” and parents are required to pay school fees, dining fees (for boarders), sports, cultural fees and among many others. These payments served as a barrier for some students from poor homes to access the SHS education. However, in 2017/18 academic year the government of Ghana (GOG) introduced “free SHS policy - (FSHSP)” as a social intervention programme.

This social policy addresses inequality and ensures equal opportunities for all students through the removal of cost barriers at SHS level; and also enables students who otherwise would have terminated at the JHS level to acquire functional and employable skills through the acquisition of secondary education (Ministry of Education (MOE), 2017). “By Free SHS, students who have completed their Basic (JHS) education to access and enter SHS education “free of charge” without paying admission fees, library fees, science resource centre fees, computer laboratory fees, examination fees, utility fees and among others.

The implementation of the “FSHSP” has led to increased enrolment at the SHS level from 300,195 students in the 2016/17 academic year to 396,951 students in the 2017/18 academic year, representing an increment of 96,756 students (Send Ghana, 2018). These additional 96,756 students have led to large class sizes in SHS most especially in the science classes which might influence classroom management practices.

Studies (Bosker 1998; Cakmak, 2009; Korpershoek et al., 2014) have shown that class size can influence effective classroom management practices. Since class size can influence classroom management practices, it is imperative to assess the views of Ghanaian SHS science teachers and their students on the classroom management practices in their science classrooms.

**Statement of the Problem**

The issue of class size seems to have been neglected and is a grey area as far as research into the educational issues in Ghana is concerned. In Ghana the required science class size for SHS education per Ghana Education Service Standard is 45 students per class. However, with the introduction of “free SHS education policy” in 2017/18 academic year, this is not the reality on the ground in schools. Most of the first year SHS science classes have large numbers ranging from 50 to over 90 students per class. This condition may affects science teachers’ effective classroom management practices in both classrooms and laboratories.

In a study, Bosker (1998) revealed that teachers in smaller classes have more opportunities to monitor individual students closely. Studies by (Bosker, 1998; Korpershoek et al., 2014) revealed that teachers in smaller classes have more opportunities to monitor individual students closely and that small class sizes ensure effective classroom management. However, Cakmak (2009) reported that large class sizes have no effects on effective classroom management practices and that effective classroom management practices is directly related with teachers’ experience.

In Ghana and elsewhere, there is a general perception that a small class size may lead to effective classroom management practices whereas a large class size may lead to otherwise. Hence, the need to assess if that is the case in Ghanaian SHS. It is against this background that the study was conducted to assess the views of science teachers and SHS science students on the effects of large class sizes on the classroom management practices in schools.

**Purpose of the Study**

The main purpose of the study is to find out SHS science teachers’ and science students’ views on the effect of large size science classes on the classroom management practices (CMP) in SHS schools. Specifically, the study intends:
1) To examine the effects of large class size on the CMP by SHS science students.
2) To assess the impact of large class size on the CMP by SHS science teachers.

Research Questions

The following two (2) investigative questions directed research activity in the study:
1. What are the views of SHS science students on the effects of large class size on the CMP?
2. What views are expressed by SHS science teachers on the effects of large class size on CMP?

II. Review of Related Literature

Globally, class size has been incriminated by some researchers as one of the factors responsible for the falling standards of education worldwide. Studies by (Blatchford & Mortimore, 1994; Cakmak, 2009) suggested a possible relationship between class size and effective CMP.

Hoffman (1980) defined class size as the number of students per teacher in a class whereas Evertson and Weinstein (2006) defined effective CMP as the actions teachers take to create a supportive environment for the academic and social-emotional learning of students. Kayikci (2009) defined effective CMP as the process of arranging the classroom environment and its physical structure under the laws in order to satisfy the expectations of the educational system; constituting the rules and administration of class order, providing student motivation and arranging classroom communication pattern for the attainment of classroom discipline. According to Wubbels, Brekelmans, Van Tartwijk and Admiraal (1999) effective CMP is generally based on the principle of establishing a positive classroom environment encompassing effective teacher-student relationships.

On their part, (Brophy, 2006; Korpershoek et al., 2014) classified classroom management practices into two (2) namely the preventive management practices and reactive management practices. For example, the establishment of rules or procedures and favourable teacher-student relationships are considered preventive management practices whereas disciplinary interventions such as giving warnings or punishments are considered reactive management practices.

Most of the literature (Blatchford & Mortimore, 1994; Bennett, 1996; Galton & Hargreaves, 1996; Kayikci, 2009) findings on the relationship between the class size and classroom management practices are in favour of small class sizes than large class sizes. Majority of the studies were with the view that small class size offer more flexibility and effective management practices than large class size. In a study, Galton and Hargreaves (1996) concluded that smaller classes provide teachers with the opportunity to devote more time to each student and manage the class effectively. In a similar study, Bennett (1996) revealed that teachers expressed their views in favour of small class than large class. In their review, Blatchford and Mortimore (1994) also stated that classroom management of behaviour is easier in smaller classes. In another study, Kayikci (2009) pointed out that effective classroom management practices cannot take place in overcrowded classrooms.

However, Cakmak (2009) also reported that large class size has no effects on class management practices; the class management skill is directly related with teachers’ experience and that if the class size is smaller or larger, there is the possibility of encountering classroom management difficulties. Reece and Walker (1997) also emphasized that large class size has no effects on the teachers’ CMP. In sum, it is apparent that there are diverging views on the effects of class size on teachers’ CMP that need further investigation.

III. METHODOLOGY

Research Design

The research design used in this study was descriptive survey. This design was used because of its ability to reduce complex problems to a limited number of variables which made testing easier. It also allows objective measurement and the statistical analysis of data collected through various instruments to ensure triangulation of data.
Sample and Sampling Procedure

A total of 50 respondents made up of 30 SHS science teachers and 20 SHS students drawn from ten (10) SHS in the Central Region of Ghana constituted the sample size of the study. Three (3) science teachers and two (2) students (1 male and 1 female) were drawn from each of the 10 schools.

A purposive sampling technique of the non-probability sampling procedure was used to pick the sample of the study. These respondents were selected because of their in-depth knowledge on the effects of class size on the effective CMP.

Research Instruments

Questionnaire and interview were the two (2) main instruments used to collect data from the respondents. Two (2) questionnaires were developed and used for study. One of the questionnaires called Teachers’ Reflective Questionnaire (TRQ) was used to collect data from the science teachers whereas Students’ Reflective Questionnaire (SRQ) was used to collect data from the science students. Each of the questionnaire has a 3-point-likert scale namely: - Disagree (D); Not-sure (N); Agree (A); and each respondent was asked to indicate their preferred response to each question item.

A semi-structured interview guide was used to gather additional information from only 50 selected SHS science teachers about their views on class size on classroom management practices.

Data Collection Procedure

Permission was sought from the school authorities, teachers and pupils of the selected SHS to carry out the study. In all, five (5) days were used to collect the data from the respondents. The TRQ was administered to the selected SHS science teachers whereas SRQ was also given to the selected students to response in my presence which lasted for 50 minutes. After the stipulated time, all the questionnaires were collected and this ensured 100% retrieval rate.

After, the administration of the questionnaire, a focus-group interview sessions were organised for the science teachers in each school using the interview guide. The interview sessions for each small group lasted for 10 - 20 minutes.

Data Analysis Method

The study employed both quantitative and qualitative methods of data analysis. Data from the questionnaires (TRQ and SRQ) were analysed quantitatively using descriptive statistics mainly frequency and percentages. Data from the interview sessions were analysed qualitatively. The recorded conversations with the teachers were transcribed, analysed and summarised thematically after the interview session.

IV. RESULTS AND DISCUSSION

Analysis of the Results

The analyses of the results were done to answer the 2 research questions posed by the study.

Research Question 1: What are the views of SHS science students on the effects of large class sizes on the CMP?

In order to investigate the views of SHS science students on the effects of large class size on the classroom management practices, all the 20 SHS students’ responses to SRQ questionnaire items were analysed and are presented in Table 1 below:

<table>
<thead>
<tr>
<th>No.</th>
<th>Students’ views on large class size on CMP</th>
<th>D (%)</th>
<th>N (%)</th>
<th>A (%)</th>
<th>Total (%)</th>
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<tr>
<td>1.</td>
<td>Our science class is huge and overcrowded with many</td>
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students and it makes class control difficult.

2. Noise level and student’s disturbances in my class are very low during science lessons.

3. There is always good and cordial teacher-student relationship in my class during science lessons.

4. My science teachers do not have enough time to attend to individuals needs due large class size.

5. I like the favourable and conducive learning atmosphere in my science classroom.

6. My science teacher can easily identify me when I misbehave in the classroom.

7. Science teachers are able to set and enforce rules to check each student’s behaviour and give necessary punishments due to large class size.

8. My science teachers are not able to maintain order and discipline during science lessons.

9. I like the arrangement of the physical learning environment (sitting arrangements; lightening; space, heat, etc) in my classroom.

10. My science teachers have enough time to sustain students' attention to lessons.

From the responses in Table 1, it is clear that majority of students 18 representing 90% agreed that their science classes were huge and overcrowded with many students and therefore making class control difficult; with only 2 students representing 10% disagreed to the same item.

When asked if the noise level and student’s disturbances in their class were very low during science lessons, 14 students representing 70% disagreed to the statement; 5 students representing 25% agreed, with only 1 student representing 5% not sure about the same item.

On whether they like the favourable and conducive learning atmosphere in their science classroom, more than two-thirds of the students 17 representing 75% disagreed to the statement, with only 3 students representing 15% agreed to the same statement.

When asked if the science teacher can easily identify them when they misbehave in the classroom, 16 students representing 80% disagreed to the statement; whereas 3 students representing 15% agreed to the statement; with only 1 student representing 5% was not sure.

On the issue of whether they like the arrangement of the physical learning environment (sitting arrangements; lightening; space, heat, etc) in their classroom, as many as 18 students representing 90% disagreed to the statement, whereas only 2 students representing 10% agreed to the same item.

As asked if science teachers have enough time to sustain students' attention to lessons, 14 students representing 70% disagreed to the statement, whereas 5 students representing 25%; with only 1 student representing 5% was not sure.

The observations made by the students in Table 1 above revealed that their science classes are huge and overcrowded making CMP very difficult.

Research Question 2: What views are expressed by SHS science teachers on the effects of large class sizes on CMP?

In order to find out SHS science teachers views on the effects of large class size on the CMP, all the selected 30 SHS science teachers’ responses to the questionnaire items were analysed using frequency and percentages. The results have been summarised and are presented in Table 2 below:

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<th>No</th>
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<th>A (%)</th>
<th>Total (%)</th>
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Source: (Students’ Questionnaire, 2018)
From the responses in Table 2, majority of the science teachers (28 out of 30) representing 93.3% agreed to the statement that their science classes are huge, overcrowded and it makes class management very difficult; whereas only 2 students representing 6.6% disagreed to the same item.

Asked if they don’t feel comfortable teaching in such large and overcrowded science classes, 25 science teachers representing 83.3% agreed to the statement, 4 teachers representing 13.3% disagreed to the same item, with only 1 teacher representing 3.3% was not sure to the same statement.

On whether they do not have enough time to attend to individuals needs due large class size, 25 science teachers representing 83.3% agreed to the statement, 3 teachers representing 10.0% disagreed to the same item, whereas 9 of them representing 30.0% agreed, with only 1 teacher representing 3.3% was not sure.

When asked if they can easily identify any individual students who misbehave in my class due large class size, 26 science teachers representing 86.7% agreed to the statement, 4 of them representing 13.3% disagreed to the same item, whereas 9 of them representing 30.0% agreed, with only 1 teacher representing 3.3% was not sure.

Asked if it was easy to manage and instil disciplinary actions in smaller size class than in larger size class, 28 science teachers representing 93.3% agreed to the statement, whereas only 2 of them representing 6.6% disagreed to the same item.

From the views of these teachers, it can be inferred that the relationship between class size and classroom management is not very good. Almost all the teachers agreed that there was a direct relationship between large class size and CMP. Three (3) of science teachers’ responses are captured in the words below: “There was a relationship between class size and classroom management. If the class size is small, the possibility of facing classroom management difficulties also decreases but if the class size is large the CMP becomes very difficult.”

All teachers’ unanimously agreed that it was easier to deal with students in small classes because it enables the teacher to manage the classroom more effectively. However, two (2) science teachers strongly believed that large class sizes have no direct effects on effective CMP, and that with better managerial knowledge and skills, a teacher can implement a better CMP. The views expressed by these teachers are captured in the words below:
“Large class sizes have no direct relationship with effective classroom management practices. Whether the class size is large or not a teacher is likely to encounter management practices difficulties. However, with better managerial knowledge and skills as well as being objective, a teacher can effectively steer the affairs in his/her classroom and implement a better CMP”.

Discussion of the Results

The views are expressed by the science teachers and SHS science students on the effects of large class size on the classroom management practices were not very positive. Reflections from the SHS science students’ responses showed that their science classes were huge and overcrowded making effective class management very difficult. Majority of these students strongly believed that their science teachers cannot easily identify them when they misbehave in the classroom as a result of the congestion and overcrowded classrooms. The students unanimously agreed that the noise level and student’s disturbances in their class were very high during science lessons. Again, most students indicated that they did not like the arrangement of the physical learning environment (sitting arrangements; lightening; etc) in their classroom and also that their science teachers did not have enough time to sustain their attention to science lessons in classrooms.

Reflections from the science teachers’ responses from the questionnaire were not different from that of the students. Almost all the science teachers vehemently agreed that their science classes were huge and overcrowded. Majority of the teachers indicated that they did not feel comfortable teaching in large and overcrowded science classes since they did not have enough time to attend to individuals needs. Most of the teachers stated that they were not able to set and enforce rules to check each student’s behaviour and give necessary warnings due to large class sizes. Almost all the science teachers overwhelmingly agreed that it was easy to manage and instil disciplinary actions in smaller size class than in larger size classes. For example, as many as 29 science teachers representing 96.7% agreed to the statement that it was easy to manage and instil disciplinary actions in smaller size class than in larger size classes with only 1 teacher representing 3.3% disagreed to the same statement.

The observations made by the science teachers and SHS science students revealed that science classes were huge, overcrowded and that maintaining order and discipline during science lessons were very difficult due large number of students in science classrooms. These findings from this study lend credence to the results of some pioneer researchers (e.g. Blatchford & Mortimore, 1994; Bennett, 1996; Galton & Hargreaves, 1996; Kayikci, 2009) that there is a direct relationship between large class size and effective CMP and that it is very difficult to manage large class sizes than small class sizes.

Interviews with the science teachers revealed that two (2) of the teachers strongly believed that large class sizes have no direct relationship with effective CMP, but with better managerial knowledge and skills as well as being objective, a teacher can implement a better CMP. This result in consonance with the findings of (Reece & Walker, 1997; Cakmak, 2009) that large class sizes have no effects on the science teachers’ CMP.

V. Conclusions

This study has shown that the views are expressed by the science teachers and SHS science students on the effects of large class size on the CMP were not very positive. The respondents revealed that their science classes were huge and overcrowded. The huge and overcrowded situation made it very difficult to effectively implement better CMP. It was revealed by the respondents that maintaining order and discipline during science lessons were very difficult due huge number of students in their science classrooms. Again, respondents who took part in the study agreed that the noise level and student’s disturbances in their class were very high during science lessons.

One significant finding was that, the large class sizes have no direct relationship with effective classroom management practices, but rather effective CMP depend on the teacher’s better managerial knowledge and skills to effectively steer the affairs in his/her classroom and implement a better CMP.
Recommendations

This study should be replicated in other parts of the country Ghana or elsewhere using a much larger sample. This would provide a basis for more generalisation of conclusions to be arrived at on the effect of large class size on the classroom management practices.

References


