

**Influence of Criterion for Selecting Instructional Materials on
Students' Academic Performance in Ghana**

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ABSTRACT

The study examined the criterion for selecting instructional materials for students' academic performance in Business studies. Descriptive survey design was adopted for the study. The study was conducted in Ghana. The population of the study comprised all the 681 business studies teachers in Ghana, including JSS 2 business studies students selected along with the number of business studies teachers available in each school. A purposive sampling technique was used to sample 631 business studies teachers and 631 JSS 2 business studies students in 227 public secondary schools in Ghana. The instrument that was used for data collection was a comprehensive questionnaire developed by the researcher to reflect all variables selected for the study, titled "Criteria for Selecting Instructional Material for Business Studies Questionnaire (CSIMBSQ)". Face and content validation of the instrument was carried out by the researcher's supervisor and two experts in the Department of Educational Foundation in the Faculty of Education, University of Ghana, to ensure that the instrument has the accuracy, appropriateness, and completeness of the study under consideration. To determine the reliability coefficient of the instruments, Pearson Product Moment Correlation was used. The reliability coefficient for the questionnaire and business studies achievement test ranged from 0.82 to 0.98, which showed that the instruments were highly reliable. Descriptive statistics was used to answer the research questions, while independent t-test analysis was used to test the hypotheses at 0.05 level of significance. From the findings of the study, it was revealed that class size has remarkable effect on the effectiveness of the teachers, thus affecting students' academic performance in business studies. Since learners differ one from another psychologically, socially, emotionally, and economically, it is also concluded that different teaching methods would suit the different learners' interests, abilities, and attitudes for improved academic performance. One of the recommendations made was that since instructional materials are very pertinent in teaching and learning, there is a strong need for the school to procure the relevant instructional materials for the teachers to use in teaching.

KEYWORDS: Business studies, Class size, Teaching methods and Instructional materials

Introduction

For years, many business schools existed in various parts of the country. Their main purpose was to train youths in secretarial and clerical duties. The implementation of the 6-3-3-4 educational system in the country resulted in an emergent shift in emphasis and orientation toward a more functional approach to secondary education. This development is geared towards satisfying the yearnings of the masses and the socio-economic needs of the nation. More practical subjects like office practice,

commerce, book-keeping, typewriting, and shorthand were introduced into the business curriculum. (FGN, 2004). Osuala (2000) defined business studies as that part of education which deals with business experience both for specialized occupational uses and for general uses. Business studies are therefore an integral part of a total education programme. The individual prepares himself with adequate knowledge of existing business institutions and adjusts accordingly to benefit maximally from available opportunities. The business studies programme is designed to produce wise consumers and producers of goods and services. At the JSS level, the business studies curriculum is intended to offer both specialized and general educational experiences. The specialized form of education is designed to meet the immediate needs of individuals who wish to develop their intellectual and vocational interests in a special field, and such a field is beyond the level of general education.

Okoro (2002) stated that the number of learners in a class differs from school to school. Learning cannot be as effective in large classes as in smaller ones. Gilbert (1995) observed that research has shown that interaction influences on learning vary according to the size of the groups. With regards to the appropriate number of learners required to constitute a class, he states that it should be such that the teacher can conveniently manage and interact with them in order to bring about effective participation. In that way, small groups normally pay off better than large groups. Ikpe (2005) defined teaching as a process of helping someone change skills or acquire new attitudes, knowledge, and ideas. The concept claims that teaching methods are the necessary ingredients for effective teaching and learning activities as the learners differ from each other psychologically, biologically, socially, and emotionally. Kanu (2000) claimed that the most useful form of stating objectives is to include both the kind of behaviour to be developed in the students and the area of life in which this behaviour is to operate. Since the real purpose of education is not to have the instructor perform certain activities but to bring significant changes in the students' pattern of behaviour, it becomes important to recognise that any statement of the objectives of the school should be a statement of the changes to take place in students.

Usoro (2001) observed that the use of instructional materials in teaching business studies will go a long way towards increasing the practical know-how of the learner because the greater the use of these materials, the more likely it will become internalised in the lives of the learners. Nevertheless, it is generally believed that the use of instructional resources and other facilities is crucial to effective learning and teaching of any subject at any educational level. Both the teaching facilities and materials assist the teacher in carrying out this primary function and also help the students learn quickly and better. The teacher's legitimate aim is efficiency. The teacher is helpless in the classroom, and his main concern is that of bringing the outside world into the classroom. In order to do this, he uses facilities and equipment, which are essential resources that are needed for the effective operation and maintenance of any institution of learning.

Statement of the Problem

Many teachers have been concerned by students' lack of interest and subsequent poor academic performance in business studies in public examinations. The failure rate of students in business studies could be traced back to certain criteria used by business studies teachers when selecting instructional materials. The importance of the business

studies subject has not been felt due to so many factors confronting students' learning and performance. In most cases, students are not exposed to the fundamental principles and technicalities involved in the subject.

Objectives of the Study

The major purpose of the study was to determine the influence of criterion for selecting instructional materials on students' academic performance in Ghana. Specifically, the study sought to:

1. Determine the influence of class size as criterion for selecting instructional materials on students' academic performance in Business studies in Ghana.
2. Examine the influence of teaching methods as criterion for selecting instructional materials on students' academic performance in Business studies in Ghana.

Research Questions

1. What is the influence of class size as criterion for selecting instructional materials on students' academic performance in Business studies in Ghana?
2. What the influence of teaching methods as criterion for selecting instructional materials on students' academic performance in Business studies in Ghana?

Hypotheses

1. There is no significant influence of class size as criterion for selecting instructional materials on students' academic performance in Business Studies.
2. There is no significant influence of teaching methods as criterion for selecting instructional materials on students' academic performance in Business Studies.

Conceptual Review

Concept of Business Studies

According to Ehiamentor (1990), business studies is distinctive in that it encompasses the theoretical and practical aspects of business and management in contexts that students will encounter in life. Conceptually, it offers focus areas and perspectives ranging from the planning of a small business to the broader roles of management, finance, employment relations, marketing, and the impact of the global business environment. Through the incorporation of contemporary business theories and practices, the course provides rigour and depth and lays an excellent foundation for students either in future tertiary study or future employment.

Osuala (1995) explained business studies as that part of education which deals with business experiences both for specialised occupational uses and for general uses.

According to him, Business Studies is therefore an integral part of a total education programme. The individual prepares himself with adequate knowledge of existing business institutions and adjusts accordingly to benefit maximally from available opportunities. According to NPE (2004), at the junior secondary (JSS) level, the business studies curriculum is intended to offer both specialised and general educational experiences. The specialised form of education is designed to meet the immediate needs of individuals who wish to develop their intellectual and vocational interests in a special field.

According to Usoro (2001), business studies at the junior secondary school level is rudimentary to business education. At this level, it is a subject made up of five compartments or compartments, namely, typewriting, shorthand, commerce, book-keeping, and office practise. Asuquo (2005) indicated that at the junior secondary school level, integrated business subjects are offered as part of business studies. Here, students are exposed to pre-vocational ideas in business. At the senior secondary school level, business subjects are offered separately to further increase the students' knowledge and understanding of business concepts. Odulami (2001) opined that the business studies curriculum should aim at developing students' conceptual thinking, manipulative skills, and scientific attitudes.

Concept of Instructional Materials Selection

The skill of selection of instructional materials, as submitted by Akanbi (1988) in Agun and Imogie (1988), is an apparent need of any teacher, administrator, producer of educational materials, technician, or training officer in institutions and ministries. The process of selection of instructionally relevant differences between the materials to be employed in different instructional situations. Agun and Imogie (1988) have shown that teachers' ability to select appropriate instructional materials and mix them in any teaching-learning situation is a rare and difficult competence to acquire.

Berkey stressed that a rational selection of instructional materials is a necessary step to effective teaching. Agun and Imogie (1988) revealed that no instructional material is absolutely capable of teaching the different types of instructional objectives within a single lesson, or course, and therefore, the need for effective selection is significant in the teaching-learning process. Haney and Ullmer (1975) held that teachers are those who are continuously making decisions toward improving the processes of selection of appropriate instructional materials for use in teaching and learning. Haney and Dumer also went ahead to describe teachers as managers and organisers of specific instructional situations that involve the selection and utilisation of instructional materials.

Generally, the methods adopted as well as the criteria for the selection of instructional materials are complex and multidimensional. According to Popham (1969) and Baker (1969), selection of instructional materials as a function is subsumed under a more general model of teacher planning. This resulted in the indoctrination of teachers into the "objective first" rationale model, which stipulates:

1. Stating learning objectives first
2. Selecting learning activities and materials

3. Organising learning activities and materials

4. Evaluating effectiveness and efficiency of the outcome based on the objectives.

From another perspective, Taylor (1980) viewed the selection of instructional materials as a process where teachers plan from materials rather than to materials.

Class Size and Students' Academic Performance in Business Studies

Reynolds and his associates (1996) identified the following teacher behaviours that contribute to better student outcomes: effective class management, use of homework, high expectations, clear goal setting, structuring the curriculum, feedback and corrective instruction. Classroom practises greatly influence students' achievement and that more attention needs to be paid to classroom practice. In addition to more and higher quality student-teacher interactions, studies have shown that performance is higher in a small class than in a large class in all subjects. The longitudinal research represented by the Tennessee student/teacher area ratio star project and follow-up lasting benefit study points directly to social and physical links to achievement (Achilles, 1992; Finn & Achilles, 1990).

Wood, Linsky, and Straus (1974) opined that class size has little effect on common examination results, especially when compared to instructor enthusiasm, organisation, and clarity. When measures other than the standard academic achievement measures were used, class size appeared to have some impact. Smaller classes were found to produce statistically significant differences in problem solving, student attitudes to teaching, and knowledge retention. But while significant, the differences were small. Thus, the impact of class size, it was suggested, depended in part upon the educational goal. If the acquisition of factual knowledge was the primary objective, then size was not of great consequence. If higher-level thinking, application, motivation, and attitudinal change were primary, the smaller classes were best.

Ezewu (1987) observed that interaction influences on learning vary according to the sizes of the groups. With regards to the appropriate number of learners required to constitute a class, he states that it should be such that the teacher can conveniently manage and interact with them in order to bring about effective participation. In that way, small groups normally pay off more than large groups.

Effective school research has extended the agenda by focusing on an expanded number of variables that are presumed to be related to student achievement. Schools are now perceived as cultural entities where the complex interplay of multiple variables affects the lives of all who learn and teach in those institutions. As the metaphor for schools has shifted from an assembly line to that of a caring, learning community, the class size research agenda has also shifted to include such variables as instructional method, teacher morale and stress, teacher work load, student behaviour and attitudes, content areas, student characteristics, and grade level.

Bennett (1987), in a review of more recent research, found broad agreement among researchers on the following general conclusions:

- Smaller classes result in increased student-teacher contact.

- Reductions in class size to less than 20 students without changes in instructional methods cannot guarantee improved academic achievement.
- No single class size is optimal for all grade levels and subjects.
- Smaller classes appear to result in greater achievement gains for students with lower academic ability and for those who are economically or socially disadvantaged.
- Classroom management improves in smaller classes (fewer discipline problems).
- Smaller classes result in higher teacher morale and reduced stress.
- Individualisation is more likely to occur in smaller classes.
- Class size reduction alone does not necessarily lead to adoption of dramatically different instructional methods.
- Class size appears to have more influence on student attitudes, attention, interest and motivation than on academic achievement.
- Smaller classes are beneficial for children at the primary level, particularly in maths and reading.
- Very small classes of five or fewer students produce considerably higher academic achievement.

Studies to date suggest that small classes create a more personalised environment for learners and students and that small classes produce time efficiency by reducing the need for discipline and classroom management and delivering effective instruction in a shorter amount of time. One study using Students' Achievement Result (STAR) data (Nye, 1996) concluded that the negative correlation between school size and achievement disappears for students attending small classes.

Teaching Methods and Students' Academic Performance

A teaching method is a systematic planning design that results in successful learning and performance; that is, learning that is effective and efficient. The goal of instructional design is to create sound instruction that will lead to appropriate and competent performance.

Mayer (2001) described a teaching method as a term that describes how information is structured and presented to encourage meaningful and memorable student interaction with instructional content. The teaching method according to Mayer is not to be confused with the term curriculum, which refers to the subject content and skills that make up an educational programme. The teaching method considers instruction from the perspective of the learner, rather than the content. According to Mayer (2001), it focuses on many factors that influence learning outcomes, including:

- What level of readiness do individual students need for accomplishing the objectives?

- What teaching methods are most appropriate in terms of objectives and learner characteristics?
- What media or other resources are most suitable?
- What support is needed for successful learning?
- How is achievement of the objectives determined?

Literature is replete with evidence which suggests that a large proportion of secondary school business studies students lack the necessary skills to cope with the subject (Okebukola, 1985). This apparent void in students' performance was seen to provide rational justification for the apparent enquiry. Effective teachers try to understand why and how students learn, and then use the appropriate methods to achieve the desired results (Osuala, 2004). Different teaching methods have been used through the ages, with various methods emphasised at different times and in particular cultures. Quite a number of studies by researchers have addressed the issue of teaching and students' achievements in business studies. Gallo and Nenno (1985) observed that innovation due to inevitability perturbs the dynamics of a classroom and makes more apparent the mathematical beliefs and understanding of teachers and students alike. Townsend and Wood (1978) and Skyrome (1982) posited that the use of computer graphics yields considerable benefit to teachers and learners in many business education courses. Doyles and Rutherford (1984) also agreed that the use of computers in teaching and learning induced positive growth in the aptitude and attitude of students towards business studies. Straus and Wood (1987) considered the potential of computers in teaching styles and stated, "styles of teaching which involve the use of microcomputers can greatly aid the acquisition of important high-level skills, which are exactly those which will be required in the future."

Methods

Descriptive survey design was adopted for the study. The study was conducted in Ghana. The population of the study comprised all the 681 business studies teachers in 227 Ghana Government owned secondary schools spread over 25 Local Education Committees (LECs) including JSS 2 business studies students selected along with the number of business studies teachers available in each school. A purposive sampling technique was used to sample 631 business studies teachers and 631 JSS 2 business studies students in 227 public secondary schools in Ghana. The instrument that was used for data collection was a comprehensive questionnaire developed by the researcher to reflect all variables selected for the study titled "Criteria for Selecting Instructional Material for Business Studies Questionnaire (CSIMBSQ)". Face and content validation of the instrument was carried out by the researcher's supervisor and two experts in the Department of Educational Foundation in the Faculty of Education, University of Ghana to ensure that the instrument has the accuracy, appropriateness and completeness of the study under consideration. To determine the reliability coefficient of the instruments, Pearson Product Moment Correlation was used. The reliability coefficient for the questionnaire and business studies achievement test ranged from 0.82 to 0.98, which showed that the instruments were highly reliable. Descriptive statistics was used to answer the research questions, while Independent t-test analysis were used to test the hypotheses at 0.05 level of significance.

Results

Research Questions

Research Question 1: What is the influence of class size as criterion for selecting instructional materials on students' academic performance in Business Studies in Ghana? Table 1 was used to answer the research question.

Table 1: Descriptive analysis of the influence of class size as criterion for selecting instructional materials on students' academic performance in Business Studies

Variable	N	X	SD	Remark
Academic performance of students taught by teachers who affirm class size as criterion for selecting instructional materials.	490	72.79*	11.34	* Remarkable difference
Academic performance of students taught by teachers who do not affirm class size as criterion for selecting instructional materials.	141	48.71*	5.47	

Source: Field Survey

The result in Table 1 shows that the level of academic performance of students taught by teachers who affirm class size as criterion for selecting instructional materials (72.79) is remarkable higher than that of their counterparts (48.71) taught by teachers who do not affirm it. The result therefore means that class size as criterion for selecting instructional materials has remarkable contribution of the academic performance of students in Business studies in Ghana.

Research Question 2

What is the influence of teaching methods as criterion for selecting instructional materials on students' academic performance in Business Studies? Table 2 was used to answer the research question.

Table 2: Descriptive analysis of the influence of teaching method as criterion for selecting instructional materials on students' academic performance in Business Studies

Variable	N	X	SD	Remark
Academic performance of students taught by teachers who affirm teaching method as criterion for selecting instructional materials.	486	72.79*	10.45	* Remarkable difference
Academic performance of students taught by teachers who do not affirm teaching method as criterion for selecting instructional materials.	145	47.78*	6.13	

Source: Field Survey

The result in Table 2 shows that the level of academic performance of students taught by teachers who affirm teaching method as criterion for selecting instructional materials (73.26) is remarkably higher than that of their counterparts (47.78) taught by teachers who do not affirm it. The result therefore means that teaching method as criterion for selecting instructional materials has remarkable contribution to the academic performance of students in Business Studies in Ghana.

Hypotheses Testing

Hypothesis 1: There is no significant influence of class size as criterion for selecting instructional materials on students' academic performance in Business Studies.

In order to test the hypothesis, two variables were identified as follows:

1. Class size as independent variable
2. Students' academic performance and dependent variable

The independent t-test analysis was used in comparing the mean score of the two independent groups (see Table 3).

Table 3: Independent t-test analysis of the influence of class size on students academic performance in Business Studies.

Variable	N	X	SD	t
Performance of students taught by the teachers who affirm class size as criterion for selecting instructional materials.	490	72.79	11.34	24.40*
Performance of students taught by the teachers who do not affirm class size as criterion for selecting instructional materials.	141	48.71	5.47	

***significant at 0.05 level; df = 629; critical t-value = 1.96**

As shown in Table 6 the calculated t-value is 24.4. This value was tested at 0.05 level of with degree of freedom. The obtained t-value (24.4) is greater than the critical t-value (1.96). Hence, the result was significant. The result therefore means that there is significant influence of class size on students' academic performance in Business studies in Ghana.

Hypothesis 2: There is no significant influence of teaching methods as criterion for selecting instructional materials on students' academic performance in Business Studies.

In order to test the hypothesis, two variables were identified as follows:

1. Teaching methods as independent variable
2. Students' academic performance as dependent variable

Independent t-test analysis was used in comparing the mean score of the two independent groups (see Table 4).

Table 4: Independent t-test analysis of the influence of teaching methods on students' academic performance in business studies

Variable	N	X	SD	t
Performance of students taught by the teachers who affirm teaching methods as criterion for selecting instructional materials.	486	73.26	10.41	28.40*
Performance of students taught by the teachers who do not affirm teaching methods as criterion for selecting instructional materials.	145	47.78	6.13	

***significant at 0.05 level; df = 629; critical t-value = 1.96**

Table 4 shows the calculated t-value as 28.40. This value was tested at 0.05 level with degree of freedom. The obtained t-value (28.40) is greater than the critical t-value (1.96). Hence the result was significant. The result therefore means that there is significant influence of teaching methods on students' academic performance in Business in Ghana.

Discussion

The result of the data analysis in Table 1 and 3 was significant due to the fact that the obtained t-value (28.40) was greater than critical t-value (1.96) at 0.05 level with the 629 degree of freedom. This result implies that class size criterion for selection of instructional materials has remarkable influence on the academic performance of students in Business Studies in Ghana. The significance of the result is in agreement with the opinion of Reynolds and associates (1996) who identified teacher behaviour contribution to better student outcomes, effective class management, use of homework, high expectations, clean goal setting, structuring the curriculum, feedback and corrective instruction. Achievement and that more attention needs to be paid to classroom practices.

The result of the data analysis in Table 2 and 4 was significant due to the fact that the obtained t-value (28.40) was greater than the critical t-value (1.96) at 0.05 level with 629 degree of freedom. This result implies that teaching methods as a criterion for selection of instructional materials has remarkable influence on the academic performance of students in business studies in Ghana. The significance of the result is in agreement with the opinion of Ewuhovich and Miller (1988) who found out that children's achievement and learning styles improved considerably as a result of consistent use of computer in learning. Also Denga (1989) described small group tutoring as a teaching strategy which involves the use of few students while teaching. In so doing, the learner is at the centre of the lesson and management of effective delivery of the subject matter is enhanced. The significance of the result causes the null hypothesis to be rejected while the alternative one was retained.

Conclusion

Based on the findings of this study, the following conclusions are drawn.

That proper selection of instructional materials for teaching will set the pace for improved performance of students in business studies. Class size and teaching methods are essential ingredients that should be considered as criteria that make for quality instructional delivery. Instructional materials are teaching tools that enhance listening skills of the students and make the lesson more meaningful and practical rather than abstract to the students. From the findings of the study, it was revealed that class size has remarkable effect on the effectiveness of the teachers thus, affecting students' academic performance in business studies. Since learners differ one from another psychologically, socially, emotionally and economically, it is also concluded that different teaching methods would suit the different learners' interest, ability and attitude for improved academic performance.

Recommendations

Based on the findings and conclusions of this study, it is recommendation that:

1. Since instructional materials are very pertinent in teaching and learning, there is a strong need for the school to procure the relevant instructional materials for the teachers to use in teaching.
2. It matters how instructional materials are selected and used. Therefore, teachers should be trained periodically by the government and its agencies on how to select and use instructional materials that require training.

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