THE USE OF CLOSED –CIRCUIT TELEVISION (CCTV) AS INNOVATIVE APPROACH IN ENHANCING TEACHING LARGE CLASSES IN HIGHER INSTITUTIONS

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Abstract

With increased intake in educational institutions, large classes have become an inevitable reality. The problems associated with large classes in most higher institutions were highlighted in this paper, including amongst others, engaging students actively in the learning process is not always easy in a crowded lecture hall; organizing, planning and presenting lectures is also a challenge for teachers and/or lecturers in a large class. It was also stressed in this paper, that using the traditional lecture method which is commonly employed in higher institutions to teach large classes that involves compulsory courses may not guarantee effective communication and meaningful learning. Against this background, it was suggested that innovative technique, using appropriate technology such as the CCTV will be of immense help in enhancing teaching and learning in higher institutions. The CCTV, if effectively and intelligently used, have great potentials of addressing the problem of large classes currently being experienced in higher institutions. The paper further recommends that CCTV be installed in all higher institutions as well as organize workshops and/or training programmes for lecturers and technical support personnel, in order for them to acquire pedagogical technological skills on the use of CCTV.

Higher education according to the National Policy on Education (2004), are referred to as the education which is given in the Universities, Polytechnics and colleges of technology and colleges of education. In other words, it is the education received at the post-secondary school level. College of education is one of the institutions mandated to offer professional training to prospective teachers. These prospective teachers need to be adequately equipped in knowledge, skills, competencies, attitudes and values.

However, some courses offered in these higher institutions, especially in Colleges of Education that are compulsory courses, usually attract large student population so much so that some of the lecture halls cannot adequately accommodate the students. In such a situation, effective teaching and learning can hardly take place. Awoniyi (1998), stated that in “such a situation, much teaching goes on, but little learning takes place as a result of the gap between the lecturer, the students and the content. Moreover, in large classes where lecture method is the only traditional mode of instruction, meeting the needs of students through effective teaching could be a problem. According to Hayfron, (2004), students in large classes in higher institutions experience problems that affect their effectiveness in learning and that both lecturers and students do not seem to be happy with the situation of having to teach and enroll large classes due to its inherent problems. Be that as it may, large classes are here to stay in most higher institutions, Jagadesh (2011).
Since, most higher institutions will continuously face a critical rise in the number of applicants, it has become necessary that some solutions to the problem of large classes must be found by exploring new and better innovative approaches in teaching large classes so that students will learn effectively and meaningfully. The use of technology, especially closed-circuit television may well be a better solution to this problem.

The Present Situation of Large Classes in Higher Institutions

There is no doubt, most higher institutions are faced with chronic enrolment increase in which class sizes expand progressively every year. This large class syndrome, according to (Jagadesh, 2011; and Agbatogun, 2014), is attributed mainly to the expansion in annual students intake coupled with the fact that everybody wants access to education. There is no quantities definition of what constitutes a “large class” as perceptions of this always vary from context to context Zhichang (2001), described “large class” as a class having as many as over 100 or even 150 students. In the context of this paper, large class is the measure of average number of students in any given course in an institution, in other words, large class is referred to as class or lecture hall having more students than available facilities can support.

In some colleges of education and other similar higher institutions, the large class problem is more pronounced especially in general education courses; general studies courses and introduction to computers. As a matter of fact, these courses which are compulsory, usually attract students population ranging from four to five hundred and above that cluster in a small lecture hall to receive lectures. Under this condition, it may be assumed that, as the lecturer delivers his or her lectures, that effective learning has taken place. In addition to this, the only mode of instruction in higher institutions is the traditional lecture method that is characterized by talking and chalking, it is the lecturer that always dominates the centre stage in teaching and learning process whereas, the students become passive learners. The lecture method lacks meaningful interactions and effective communication in the lecture halls or classrooms.

It is a well know fact that the key to effective and efficient instruction and students learning meaningfully, is effective communication. And communication is the fundamental basis for effective teaching and learning. According to Andrew, (2000), learning itself is the “resultant effect of effective communication between the lecturer and the students”. Besides, communication whether in the classroom or lecture halls exists when there is effective interaction between the lecturer, the students and the content of the information. If effective interaction must be achieved in large classes, the traditional lecture method whereby a lecturer or an instructor presents his or her lectures to a multitude of students while a greater number of them engage in some other activities other than those related to what is going on in the lecture hall becomes a problem.

Every student including those that are physically challenged should be considered while planning, designing and implementing instructions so that, they too will benefit from the process of teaching and learning (Norkelunas, 2003). Presently, what is being experienced in some higher institutions, especially those courses that are compulsory for all students is that, the lecture halls are
over crowded to the extent that some students including the physically challenged ones have to struggle for lectures. Often times, some of these students have to stay outside the lecture halls to receive lectures as a result of large student population. Sometimes, many students of such large classes or population, usually turn the back of the class or lecture halls and even outside into a market forum by chatting and discussing irrelevant issues with their friends. That is why Hayes, (1997), stated that large classes are often associated with disorderliness, lack of control, lack of students’ attentiveness, lack of student/teacher interactions as well as lack of efficiency and effectiveness. In a similar view, Kickbush (2000), affirmed that, large class size always appears to have more influence on students attitude, attention, interest and motivation in teaching and learning.

The Problems of Teaching Large Classes

Most of the teachers and/or lecturers who have to cope with classes that contain 500 students and above are often ill-prepared to deal with the situation in which they find themselves in some higher institutions, Hayes (1997). In the same line of thought, Kennedy and Kennedy, (1996) opine that what gives greater percentage of lecturers serious concerns is the size of the class in the sense that as soon as the number of groups passes a certain number, it is difficult to control what happens. Mohammed, (2013), outlines some of the problems associated with large classes which include the following:

- the tremendous effort that a lecturer will have to make with an outnumbered class in terms of acquisition and management is too enormous;
- with a large class, it is difficult to get a satisfactory knowledge of students’ needs as intimacy with the students and remembering students names may be a problem;
- as a consequence of large classes of students, the noise level is inevitably high which adds to the stress teachers and/or lecturers may experience;
- organizing, planning and presenting lectures may constitute a challenge for teachers and/or lecturers in such large classes as students’ abilities might differ considerably;
- engaging students actively in the learning process may not be easy in a crowded lecture hall;
- managing school and/or higher institution’s scarce resources under large classes could be a problem;
- with crowded lecture halls or classrooms, lecturers might find it difficult to measure students academic performance effectiveness;
- a large class usually gives reluctant students a place to hide.

In addition to this, Jagadaesh (2011), also stressed that, there are certainly problems with large classes which include:

- the inability to know the students intimately and provide individual attention.
- remembering students names will be too difficulty when the class size is 500 and above;
- late comers and/or students who chat or display a totally unresponsive attitude may distract or discourage the lecturer.
A survey research conducted by Zhichang (2011), to elicit the opinion of students with regards to large classes showed negative responses made by the students thus:

- even if I sleep in the large class, the teacher or lecturer wont care about me,
- in the large class, it seems that learning has nothing to do with me;
- in the large class; I feel neglected; while in the small class, I feel my existence;
- in the large classes, I keep losing my attention therefore, I tend to learn less;
- there are rarely any chance for me to express myself in the large class;

However, the researcher tends to add the following as the problems of large classes:

- the quality of feedback to students can be much reduced in large classes;
- monitoring of attendance could be extremely difficult, thus encouraging students to cut classes.
- Students become faces instead of people; disabled students are often sidelined and are given scant attention in a large class of normal students;
- low ability students can also be buried in the crowd.

Most importantly, how should the compulsory courses in higher institutions such as introduction to computers, GES courses and in colleges of education, general education courses that have high enrolment of students, but whose space for lectures is tight and choked be effectively organized also become a problem. Against this background, Adekomi, (1999), is of the view that, “there is need for a change of style and mode of delivery of instruction so as to meet students demands as well as enhance their academic performance”. Kickbush, (2000) also share the view of Adekomi, when he stated that “reductions in class size without adequate changes in instructional methods and/or approaches may not guarantee improved students academic achievement. In the face of all this, this paper is of the opinion that, it is always normal to continuously explore new and better innovative approaches in teaching large classes in higher institutions by using the appropriate technology.

Innovation, according to Olabisi, Helen, Wayne, Victor, Renee and Paul, (2014) is the process of making changes to something established by introducing something new”. Nwafor, (2007) views innovation as “the introduction of new ideas which can take the form of process, programme and products”. In the context of this paper, innovation is a new effort to complete or create a system which can be entirely new or an adjustment to an existing programme or system. Technology is a major force behind change and has been seen to be playing a significant role in innovations in educational design and delivery. There is no doubt that the enormous problems being experienced in large classes in various higher institutions can be solved using the appropriate technology (CCTV.)

Evidence of researches has shown that educational media, especially audio-visual contributed a lot to learners’ understanding and performance in learning through effective communication (Arthur and Stephen 2003; and Awoniyi, 1998). Riesland, (2005), in his study, discovered that students were highly excited with the content presentation using the visual and synchronized sound element of audio-visual media. The researcher also reported the overwhelming attention and active participation of students using the audio-visual media. In view of this, it is believed that the effective use of closed
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circuit television (CCTV) will create a better interaction between the lecturers, the students and the content as well as solve the problems of large classes in higher institutions.

The Concept of Closed –Circuit Television- (CCTV) and How it can be used To Enhance Effective Teaching of Large Classes.

The closed –circuit television (CCTV), according to Oluyitan, (1998), is a signal received on specific private receiver that can be achieved by direct transmission from the camera to the receiver through cable system. Marc, (2000), views closed-circuit television as a television broadcasting that receives only by a selected set and is being connected to the source by cable or by over the air signals. Nwoji (2002) define closed –circuit television as the system by which television pictures are passed from a camera to a receiver or monitor by a co-axial cable. The co-axial cable is a specially screened wire required for carrying high frequency modulated signals that make up a television transmission. However, in the context of this paper, closed-circuit television is a medium through which lectures and/or instructions can be delivered via television to a very large number of students who need not be in one place.

According to Nwoji (2002), closed-circuit television is characterized by the following features namely:

- learning experiences are planned in a specific context for a particular time and to a particular group of students;
- programmes of study are structured with a prescriptive curriculum content;
- the content of the script is produced by a specialist;
- it uses a variety of teaching materials;
- structured learning programmes are conducted by the institution.

The closed-circuit television (CCTV) can be effectively used for teaching all the compulsory courses, especially the general studies courses, introduction to computers as well as general education courses in colleges of education, since it is this area that usually attracts huge students population during lectures. With closed-circuit television, a lecture hall that is usually over crowded with students can be drastically decongested thereby creating a situation in which students receive lectures in their respective schools and/or departments. As a matter of fact, the closed-circuit television (CCTV) will to a large extent, help to ease problems of large classes being experienced in most higher institutions.
From the diagram above, it clearly shows that all students in the school of Arts and Social Sciences should stay in a particular viewing centre, schools of languages, sciences, vocational and technical education and primary education studies should all stay in their respective viewing centres to receive lectures. In all these viewing centres, CCTV monitors should be installed so that each school or department will view and receive their lectures which is relayed from the transmission centre. In the diagram, there is a feedback mechanism through which the lecturer and/or instructor will get the feelings of the students for clarifications using microphones installed in each viewing centre.

Fig 1: Illustrating the Transmission of Information/Instruction from the CCTV Transmission Centre to the Various Viewing Centres
The Advantages of Closed-Circuit Television in Teaching and Learning

The use of closed-circuit television (CCTV) in teaching and learning process have the following advantages namely:

- Closed-circuit television is cost effective, especially, through the use of vidicon television equipment rather than the orthicon, cost is considerably reduced. The vidicon has lower reduced costs, maintenance cost and can be operated by less highly skilled professionals;
- Closed-circuit television has the ability to magnify lecture demonstrations which would otherwise be difficult or impossible to see. The “IP based” or version of closed-circuit television system offers higher image resolution which can aid in the actual identification of pictures, images and/or any other thing that is being presented during lecture. As a matter of fact, small objects can be enlarged and large classes may be given the advantage of observation.
- the closed-circuit television makes every other seat a front row seat in the lecture hall.
- the closed-circuit television will make teaching and learning to be highly engaging in the sense that students will be engaged in their studies and/or programmes,
- the closed-circuit television promotes interactions in the teaching and learning process, there will be interactions between the lecturers and students, and students—students as well as students—media interactions. Through this interactions, students learning is consolidated;
- the closed—circuit television is an audio-visual medium which has the ability to stimulate the senses of sight as well as hearing at the same time. With this quality, students will listen as well as view what is being presented to them.
- the closed-circuit television if effectively used in higher institutions, has the potential of decongesting lecture halls where large students population is much, especially general courses, thereby promoting effective communication and meaningful learning for the students.
- the use of closed-circuit television will open a new training programme in which most lecturers will avail themselves the opportunity to acquire pedagogical technological skills in the operation of closed—circuit television.
- through the CCTV system, it is possible to identify students involved in vandalism, theft and other anti-social acts in higher institutions and act on these very quickly, Jessica, (2009) sums up the advantages of CCTV as: it can be used to improve standards in education by teachers using it to show good practice to colleagues as well as give feedback. She went further to state that the CCTV cameras can produce dramatic improvement in learner’s behaviour, improve student’s concentration as well as protect staff, students and institution’s assets against vandals and thieves. Moreover, the use of CCTV can be used to a great deal to reduce incidences of cultism in higher institution by placing the CCTV cameras at strategic locations.

However, one limitation of CCTV is the fact that the remoteness of the audience (that is, students) may tend to reduce the possibility of lecturer—students interactions. Microphones can be set up to connect the viewing centres with the originating centre.
Summary and Conclusion

This paper discussed problems of large classes in higher institutions especially in some courses termed “general courses” which usually attract large students population. The paper is of the view that the problem of large classes could be effectively solved through the innovative technique of using appropriate technology -CCTV. The use of CCTV in teaching and learning may offer better and improved the ways in which lectures could be delivered in most higher institutions, as it would help in decongesting overcrowded lecture halls. It was also highlighted in this paper, that CCTV does not seek to replace the teachers and/or lecturers, rather, it aims at increasing lecturers’ effectiveness as well as help students learn meaningfully and efficiently.

Recommendations

Since it is not possible to wish away the syndrome of large classes in most higher institutions, it becomes imperative to devise an innovative technique and/or approaches for delivering good quality education using closed-circuit television (CCTV). In view of this, the paper makes the following suggestions:

- that in all the higher institutions where the CCTV is not being used, frantic efforts should be made to install them in order to enhance effective communication in teaching and learning,
- that in some institutions where the CCTV is installed but not functioning effectively, efforts should be made to put them into operation.
- that workshop and/or training programme should be organized for lecturers and technical support staff on the operation of CCTV.
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