

Assessing Benefits of Collaborative Learning Environment for Quality Higher Education in Nigeria

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Abstract

The study was carried out to determine the benefits of collaborative learning Environment in Institutions of Higher Learning . This study is concern with the benefits of collaborative learning environment on students for better understanding. Collaborative learning represents a philosophy of life as well as learning strategy. It says that whatever people get together in groups their purposes are best served when they work together collaboratively to reach their goals versus using competition among group members to address problems. It embodied the learning community philosophies. Our current educational system, however, is based upon competition among students for grades, scholarships, admissions to top schools and social recognition, etc. In order to change this paradigm, collaborative learning structures will need to be introduced at the earliest learning situations and used throughout each students learning career starting in preschool-and continuing through kindergarten and higher education. In order to accomplish this change in student behavioural attitudes teachers will need to adopt a new role. They will need to step down from the podium and switch from lecturing to facilitating student interactions in class. The findings revealed that collaborative learning environment has a beneficial influence in the lives of the students for better understanding and full participation. Based on findings, it was recommended that collaborative learning environment should be encouraged in tertiary institutions as it is never static. It benefits the students in many ways and also benefits the teachers through sharing of ideas, brainstorming and critical-thinking about problems which arise with the co-operative approach.

Keywords: *collaborative learning philosophy, social benefits, psychological benefits and academic benefits*

1. Introduction

Teaching and learning processes are the two term primary purposes of an educational institution. This process is jointly affected by the quality, quantity and utilization of key inputs into the teaching and learning process. The effective teaching of subject can best be measured by the amount of knowledge the learner acquires as a result of the teaching process. The assessment or measurement mechanism of the teaching, learning process always revolves around the learner who is like a product and the teacher the producer. The teacher cannot say he has taught until the learner has learnt. To this end, a total commitment is desired of both parties in the teaching and learning process. The teacher is directly connected with every educational programme and plays an important role in its implementation. He interprets the goals, objectives and subject content of the programme to the students. His role in the implementation of the curriculum can therefore not be over-emphasized. The learning environment also creates an impact in the teaching-learning process of students.

To critically diagnose the benefits of collaborative learning environment in the institutions of higher learning, one may not overlook the National policy in Education (1998) which in its broadest sense stipulates seven broad goals among which is developing the intellectual capability of individuals to understand and appreciate their local and external environments, acquire both physical and intellectual skills etc. In order to achieve this, it is expected that high quality education be provided for the learner. The quality of education as noted by Long (1999) includes the learning environment and the students outcomes.

Therefore this study is intended to promote human interactions through co-operation in tertiary institutions. It presents four major categories of benefits created by collaborative learning methods. They are academic, social, psychological and assessment benefits. Each of these areas is subdivided further to help the reader focus on specific themes within each category. Specific references are provided to document each benefit described below.

Nelson- LeGall (1992), captures the nature of collaborative learning when she states "Learning and understanding are not merely individual processes supported by the social context; rather they are the result of a continuous, dynamic negotiation between the individual and the social setting in which the individual's activity takes place. Both the individual and the social context are active and constructive in producing learning and understanding".

According to Nelson-LeGall (1992), "Relatively few students attend schools that regularly encourage peer interactions as a major means of learning. Moreover, with increasing grade level in school, students are likely to encounter classroom learning situations in which competition and independent performances are increasingly normative (Eccles et al, 1984). It is likely; therefore that unless children begin elementary school in classrooms that emphasize the social sharing of cognitive learning activities, children will come to co-operative learning groups with perceptions that collaborating with and assisting peers in classroom learning activities are not "normal" behaviours of students".

Fogarty and Bellanca (1992), highlight the reaction that teachers have after they implement co-operative learning paradigms when they state "Surprisingly and almost unfailingly, once the philosophical shift begins, once teachers begin implementing collaborative interactions, the evidence of student's motivation becomes so overwhelming visible those teachers are encouraged to try more. The momentum builds for both teachers and students, and before long the "new school lecture" becomes the norm in the classroom. The challenges now become choosing the most appropriate interactive designs for the target lesson. The models are subtly slotted into the lesson to familiarize the students with the different interactions and to lead them toward involvement in the learning situations.

Collaborative learning is therefore a personal philosophy, not just a classroom technique. In all situations where people come together in groups, it suggests a way of dealing with people which respects and highlights individual group members' abilities and contribution. Collaborative learning is based upon consensus building through co-operation by group members in contrast to competition in which individuals best other group members. Collaborative learning Practitioners apply this philosophy in the classroom at committee meetings, with community group and generally as a way of hiring with and dealing with other people (Panitz, 1997).

Collaborative learning involves the entire spectrum of learning activities in which groups students work together in or out of class. It can be as simple and informal as pairs working together in a Think-Pair-Share procedure, where students consider a question individually, discuss their ideas with another student to form a consensus answer, and then share their results with the entire class, to the more formerly structured process.

2. Academic Benefits

2.1 Collaborative Learning Promotes Critical Thinking Skills (Web, 1982):

Students working together are engaged in the learning process instead of passively listening to the teacher present information or reading information off a computer screen. Pairs of student working together represents the most effective form of interaction, followed by threesomes and larger groups (Schwartz, Black, Strange, 1991), when students work in pairs, one is listening while the other partner is discussing the question under investigation. Both are developing valuable problem solving skills by formulating their ideas, discussing them, receiving immediate feedback and responding to questions and comments by their partner (Johnson, D.W, 1971). The interaction is continuous and both students are engaged during the session.

Smith, Johnson and Johnson (1981) studied sixth grade students who worked on controversial issues. They found that for students engaged in controversy, "the cognitive rehearsal of their own position, and the attempts to understand their opponent's position, result in a high level of mastery and retention of the materials being learned". The Johnsons have developed a co-operative method called structured controversy where students study and defend one position and then stitch with another group which has taken the opposite position.

Slavin (1992), emphasizes that "students will learn from another because in their discussions of the content, cognitive conflicts will arise, inadequate reasoning will be exposed, disequilibrium will occur, and higher quality understandings will emerge".

2.2 Collaborative Learning Stimulates Thinking and Helps Students Clarify Ideas through Discussion and Debate:

The level of discussion and debate within groups of three or more and between pairs is substantially greater than when an entire class participates in a teacher led discussion. Students receive immediate feedback or questions about their ideas and formulate responses without having to wait for long intervals to participate in the discussion.

Another aspect of the benefits of collaborative discussion is the effects it has on students, who peer edit written work. According to Mc Carthey and Mc Mahon (1992), "Research focusing specifically on revision when peers respond to and edit writing has revealed that students can help one another improve their writing through response.

Nystand (1986), found that students who responded to each others writing tended to re-conceptualize revision, not as editing, but as a more substantive rethinking of text, whereas students who did not work in groups viewed the tool as editing only".

2.3 Skill Building and Practice can be Enhanced and Made Less Tedious through Collaborative Learning in and Out of Class, (Tannenbery, 1995):

The acquiring of information and operational skills can be facilitated through the use of collaborative activities (Brufee, 1993). In order to develop critical thinking skills, students need a base of information to work from. Acquiring this skills base often requires some degree of repetition and memory work. When this is accomplished individually the process can be tedious, boring and overwhelming, when students work together the learning process becomes interesting and fun despite the repetitive nature of the learning process.

2.4 Collaborative Learning Develops Oral Communication Skills (Yager, 1985a):

When students are working in pairs one partner verbalizes his/her answers while the other listens, ask questions or comments up in what he/she has heard. Clarification and explanation of one's answer is a very important part of the collaborative process and represents a higher order thinking skill. As students work in groups and express themselves orally three benefits occur. First the more advanced students demonstrate appropriate ways of approaching a problem, how they analyze content material and formulate arguments and justifications for their approaches. Secondly, instead

of an individual thinking about a problem in small increments in isolation, a group will often look at a problem from a wider perspective and consider more options and solutions than one person. Thirdly, by discussing various aspects of a problem solution and questioning the more advanced students, the novices in the group can participate in actually solving the problem.

2.5 Collaborative Learning Fosters Met Cognitive in Students:

Meta-cognition involves student and recognition and analysis of how they learn (O "Donnell and Dansereau, 1992). Meta-cognition activities enable students to monitor their performance in a course and their comprehension of the content material.

Co-operative discussions also improve student's recall of text content when students read a text and explain the concepts to each other and evaluate each other's explanations they engage in a high level of critical thinking. They form the new concepts by using their own vocabulary and by basing their comments upon their previous knowledge, thus they construct a new knowledge base on top of their existing base. This process leads to a deeper understanding and greater likelihood they will retain the material longer than if they worked alone and simply read the text, therefore students actively participate in the learning process.

2.6 Collaborative Learning Creates an Environment of Active, Involved, Exploratory Learning (Slavin, 1990):

Whenever two or more students attempt to solve a problem or answer a question, they become involved in the process of exploratory learning. They interact with each other, share ideas and information, seek additional information, make decisions about the results of their deliberation and present their findings to the entire class. They may tutor their peers or receive tutoring students have the opportunity to help structure the class experience through suggestions regarding class format and procedures.

2.7 Collaborative Learning Also Encourages Student's Responsibility for Learning

The empowerment of students produces an environment which fosters maturity and responsibility in students for their learning. The teacher becomes facilitate instead of a director and the student becomes a willing participant instead of a passive follower.

(Kort, 1991), also stressed that collaborative learning involves students in developing curriculum and class procedures. During the collaborative process students are asked to assess themselves and their groups as well as a class procedures. Marzano (1992), identifies four specific ways in which students become involved in developing class procedures when cooperative learning is the basis for class processes. The class can identify desired features of the physical environment, such as the arrangement of desks, number and type of breaks that will be taken, the display of classroom accessories to name a few. It provides training in effective teaching strategies to the next generation of teachers (FELDER, 1997). It also helps students wean themselves away from considering teachers, the sole sources of knowledge and understanding.

2.8 Collaborative Learning Promotes a Learning Goal Rather Than a Performance Goal

It also fits well with the constructivist approach (Daris, Mahler & Noddings, 1990). Only when students formulate their own constructs and solutions are they truly thinking critically. It creates a constructivist approach when students become actively involved in defining questions in their own language and working out answers together instead of reproducing materials presented by the teacher or the text book (Wooley et al, 1990).

2.9 Collaborative Learning Allows Students to Exercise a Sense of Control on Task (Sharan and Sharan, Gentile, 1997):

It also promotes higher achievement and class attendance because students are often inspired by the teacher who takes the time to get to know them and encourage them to aspire to better performance. According to (Felder, 1997), additional benefits occur in that students, grades are improved, they show longer retention of information, transfer information better to other courses and disciplines and have better class attendance. There is a strong positive correlation between class attendance and success in courses (Johnson and Johnson, 1990), which may help account for the improved performance.

It promotes a positive attitude towards the subject matter and increases student retention. Classes where students interact foster an environment conducive to high student motivations and participation and student's attendance. It also enhances self management skills. The promotive interactions help students learn self management techniques. Psychologically collaborative learning fosters self efficacy among students. It also promotes innovation in teaching and classroom techniques (Slavin, 1980, 1990).

Collaborative learning process include class warm up activities, name recognition games and group building activities, and group processing. Students work in pairs or larger groups depending upon the task at hand. Group work on content takes many forms, including pairs or groups working on individual questions, problem assignments, projects study activities, group tests etc (Panitz, 1996). Classes are interesting and enjoyable because of the variety of activities available for use by the teacher. It fosters modeling of problem solving techniques by students' peers. Collaborative learning allows assignment of more challenging tasks without making the work load unreasonable (Felder, 1997).

Davidson (1990), points out that "students in groups can often handle challenging situations that are well beyond the capabilities of individuals at the developmental stage". Once students have been trained to work collaboratively their performance and output increases dramatically, weaker students also improve their performance when grouped with higher achieving students (COHEN, 1994). Burns (1990), also suggests that with collaborative learning there is no waiting for help because it is available from other students or the teacher who circulates among the groups. It also leads to generation of more and better questions in class (FELDER, 1997). Students also explore alternate problem solutions in a safe environment because many students are hesitant to speak out and offer opinions publicly in a traditional classroom setting for fear of appearing foolish. Therefore, it creates a safe, nurturing environment, where students can express themselves and explore their ideas without the fear of failure or criticism.

2.10 Large Lectures Can be Personalized

Collaborative learning activities can be used to personalize large lecture classes. It can be adapted to large lectures involving students in interactive, critical thinking activities during class. According to Bean (1996), an advantage of collaborative learning is that it can be adapted to large classes. In lecture hall students may be asked to form pairs or small groups by turning around in their seats or working with the student seated next to them. It is nearly impossible to lead to whole class discussion in large lecture classrooms; however, it is possible to give students a critical thinking task by having them work with a neighbour for ten minutes or so and then asking representative, groups to present and justify their solutions. This techniques helps focus student attention on a particular topic, it also creates an active learning environment and involve students directly in their own learning, helping them take some responsibility for their learning and that of their peers.

2.11 Collaborative Learning is Especially Useful in Foreign Language Courses Where Interaction Involving the Use of Language is Important

Brufee (1993), French clubs in many institutions is a typical example of this because those in the club do speak French fluently than others. Therefore working collaboratively is an idea way to facilitate the acquisition of language and to practice the customs of debate and discussion which occur in a particular academic field such as Mathematics, Psychology or History. Interacting collaboratively with the Professor in and out of class also facilitates the enculturation process defined by Brufee. Mathematics problems can often be solved by several different approaches. Students in groups can learn several strategies for solving the same problem.

3. Social Benefits

3.1 Collaborative Learning Leads to Inclusion and Better Diversity Understanding

Collaborative learning promotes student faculty interaction and familiarity whereby the teacher can talk to the students directly or in small groups. A natural tendency to socialize with the students on a professional level is created by approaches to problem solving and about activities and attitudes which influence performance in class.

Students also develop social interaction skills through collaborative learning. By asking group members to identify what behaviours help them work together and by asking individuals to reflect on their contribution to the groups, success or failure, students are made aware of the need for healthy, positive, helping interactions when they work in groups (Cohen & Cohen, 1991).

Collaborative learning promotes positive societal responses to problem and fosters a supportive environment within which to manage conflict resolution (Johnsons and Johnson, 1990). It reduces violence in any setting; it eliminates fear and shame and increases honour, friendliness, quality and consensus. It creates a stronger social support system among students. Collaborative learning uses student's social experiences to encourage their involvement in the learning process. Warm up exercises and group building activities used throughout the course building a social support. The teacher plays a very active role in facilitating the process and interacting with each student. Administrative school staff and parents become integral parts of the collaboration process, thus building into it many possibilities for support for any individual who develops problems due to influences from outside of the class such as financial, emotional, family problems etc.

3.2 Collaborative Learning Fosters and Develops Interpersonal Relationships

The reliance on base groups to help individual keep track of each others performance, the interdependence created by self and group assessment and improvement techniques, and the social nature of collaborative learning processes all combine to improve interpersonal relationships among students. Collaborative learning encourages out of class work by the groups, bringing them together in a combined academic and social experiences which continues over long periods of time. Students also develop responsibility for each other because a nurturing atmosphere is created whereby students help each other and take responsibility for their entire group's progress. Group celebration of individual and group performance promotes a supportive atmosphere and highlights each student's responsibility to the entire group.

Collaborative learning also builds diversity understanding among students and staff. It builds more positive heterogeneous relationships and also encourages diversity understanding.

It fosters a greater ability in students to view situations from others perspectives. Students using collaborative learning methods are encouraged to question each other, debate issues and discuss each other's ideas and approaches to answering questions and solving problems. A much deeper understanding of individual differences and cultural differences among students is

developed. Because students work in supportive environment where group processing skills are taught, they are much more inclined to accept different approaches than if they work in a competitive, non-interactive system which credits individual effort above team effort. Additionally, students are exposed to many more methodologies with collaborative learning than those presented by the teacher using a lecture. It also helps majority and minority populations in a class learn to work with each other. Students are actively involved in exploring issues and interacting with each other on a regular basis in a guided fashion, they are able to understand their differences and learn how to resolve social problems which may arise.

In collaboration learning students are taught how to criticize ideas, not people. A function of collaborative learning as to help student resolve differences amicably, they need to be taught how to challenge ideas, and advocate for their positions without personalizing their statements. They are also taught conflict resolution methods, which are important for real life situations as well as being useful for academic endeavours.

Students also practice modeling societal and work related roles in collaborative classes; students may be assigned roles in order to build interdependence within the groups. Roles such as reader, recorder, reporter, materials handler, time keeper skeptic/challenger and others are rotated among group members for each new assignment or project. Students are thus encouraged to develop and practice the skills, which will be needed to function in society and work world (Hauston, 1991). These skills include leadership, information recording, and communication of result orally, and in writing, challenging ideas in a constructive manner, participate brainstorming, meeting deadlines, etc (Sandbery, 1995). Therefore, collaborative learning fosters team building and a team approach to problem solving while maintaining individual accountability. It enables the teacher to observe group dynamics and intervene where necessary to encourage participation by all students.

Collaborative learning activities also promote social and academic relationships, well beyond the classroom and individual course (Beans 1995) there is a significant benefit to collaborate learning which is not always because it takes place outside of the classroom if groups are continued long enough during a course they will get to know each other and extend their activities outside of class. This includes meeting on campus for meals or coffee, forming study groups, getting together at each others home in the evening at weekends to work in the projects or study for exams. Student's exchange phone numbers and contact each other to get help with questions or problems they are having. Students are able to make new friends and establish study groups easier within a collaborative learning environment (felder 1997). Therefore collaborative learning uses student's social experiences to encourage their involvement in the learning process. Warm up exercises and group building activities used throughout the course build a social support. It also encourages out of class work by the groups, bringing them together in a combined academic and social experiences which continues over long periods of time.

4. Psychological Benefits

4.1 "Collaborative Learning Builds Self Esteem in Students"

Collaborative efforts among students result in a higher degree of accomplishment by all participants as opposed to individual, competitive systems in which many students are left behind. Competition fosters a win-lose situation where superior student reap all rewards and recognition and mediocre or low-achieving students reap none. In contrast everyone benefits from collaborative environment. Students help each other and in doing so build a supportive community which raises the performance level of each of each member (Kangan1986) it also enhances student satisfaction with the learning experiences.

Collaborative learning promotes a mastery attribution pattern rather than helpless attribution pattern. It encourages students to seek help and accept tutoring from their users. Students are

often reluctant to seek out extra help or tutoring from their peers because help-seeking is interpreted negatively as an indicator of dependency (Hertz-lazarowitz et al 1992). Beller (1955) points out that help-seeking may lead to self-perceptions of low ability, embarrassment, or feeling of indebtedness.

Hertz-lazarowitz et al (1992) identify additional research in social psychology which indicates that students show a decreased liking towards helpers, negative feelings are generated when students do not see opportunities to reciprocate the help; helping activities reflect adversely upon a person's intelligence.

Nelson La Gall (1992) states that "Help-seeking, particularly the seeking of information, is valued more positively than volunteering information in cooperated work conditions; these evaluations are reversed, however, in competitive work conditions. "Further "in small cooperative learning groups, students may consult, question, explain, and monitor one another.

Nelson La Gall (1992) states "when children are able and willing to take the initiative to gain assistance of more mature and expert others, they can participate, in a supportive social context, in the interrogatory process that mature learners employ to construct the relevant contextual knowledge for task solutions" (p 52) compare this to the lecture class where the teacher is the only legitimate helper. Students seeking help during the delivery of a lecture might appear to be in attentive or worse yet ignorant of the lecture content. Students will generally wait passively for a more opportune time to raise questions about lecture materials.

Web (1992) points out that students who do not seek help, even though they may be having trouble with course content or concepts and do need help, may still benefit from group interactions and learn the materials by observing the group and seeing the strategies used by their peers as helping occurs within the group. Students can compare their learning strategies and work habits with other students and make changes simply by observing the questioning and answering process which occurs as students helping each other.

4.2 Collaborative Learning Reduces Anxiety

It reduces anxiety in the classroom as well as during the text. Competition increases anxiety and makes people feel less able to perform. It leads to a reduction in text anxiety because the students see that the teacher is able to evaluate how they think as well as what they know. Students are locked into a testing format which requires memorization and reproduction of basic skills. Though the interactions with students during each class, the teacher gains a better understanding of each student's learning style and how she performs. An opportunity is thus afforded to provide extra guidance and counseling forms of assessment. This type of interaction is completely lacking in a lecture class.

Therefore collaborative learning creates a more positive attitude toward lecturers and other school personnel by students and creates a more positive attitude toward their students. The level of involvement of the entire participant in a collaborative system is very intense and personal. Students get to know teachers personally. Lecturers learn about student behaviours because students have many opportunities to explain themselves to the lecturer. Lines of communication are opened and actively encouraged. The empowered created by the many interpersonal interactions leads to a very positive attitude by all parties involved. It also sets high expectations for students and lecturers because by setting obtainable goals for groups and by facilitating group interaction lectures established high expectations which become self fulfilling as the students master the collaborative approach, learn how to work well together in teams and demonstrate their abilities through individual tests and a variety of other methods. However, higher self esteem and higher expectations are the outcomes.

Collaboration learning makes use of teaching techniques and utilizes a variety of assessments such as observation of groups, group self assessment and short individuals writing assessments (ANGELO AND CROSS 1993) Collaborative learning provides the lecturer with many opportunities to

observe students interacting, explaining their reasoning, asking questions and discussing their ideals and concepts. In addition, group projects provide an alternative for those students who are not as proficient in taking written tests based upon content reproduction. Also group tests give students an alternate way of expressing their knowledge by first verbalizing their solution to their partner or group prior to formalizing a written response.

5. Groups are Easier to Supervise than Individual Students

Dennis Lander (1995) points out that an obvious advantage of collaborative learning is that six groups are easier for a staff member to supervise than thirty individuals students. Groups may be monitored for their progress through the use of worksheets or exercises which require an end product. Teachers can observe students working on assignments together and individually within their groups when students work alone it is very difficult for the teacher to observe most of the students during a class. This is especially true in large classes. Quite the collaboratively on an assignment it is easy for the teacher to watch individual students perform. Lecturer may raise questions; make observations or suggestions based upon the group's interactions and progress. With the lecture format there is little opportunity for these types of students-teacher interactions and student-student interactions.

Slavin (1992) looks at the classroom perspective of collaborative learning and points out that when students take responsible for managing themselves in cooperative groups the teacher is freed up to attend to more essential tasks such as working with small groups or individual students. This is especially helpful in writing classes. By having students respond to each others does not have to evaluate several drafts from each student. The teacher can focus on helping students develop the criteria used to evaluate each other's work, present the criteria to the students that the teacher wishes to be met and work with individual students if necessary.

6. Summary / Conclusion

There are many benefits to observing students at work in groups with their peers one can observe a student working through a complete problem or assignment versions seeing only the final product (exam or paper) one can observe their reasoning techniques level of basic knowledge, and concept attainment. One can identify their dominant learning style by observing whether their presentation in pairs or groups is oral, visual or kinesthetic. This information can be invaluable if one helps tutor the student in or out of class. (As an aside cooperative learning lends itself using multiple learning style presentations throughout each class)

Brief, specific interventions are possible by the teacher or other students to provide help and guidance for students having difficulties. Informal conversations take place between individuals, groups and the teacher which help highlight problem areas the entire class may be having these discussions also help create conducive environment which is more personal, as students get to know the teacher and the teacher learns about the students. Shy students will participate more with their peers in small groups than in a large class and they too can be observed. It is very helpful to identify students who are shy in order to encourage their participation in non-threatening ways.

Standardized tests using multiple choices, true false fill in the blanks or essay questions provide a limited basis for understanding and evaluating student performance. These methods deal primarily with factual information, rote memory and perhaps some critical thinking through an essay. What is needed in addition to these historic assessment techniques are methods for understanding student's affective learning skills and a variety of student learning styles.

Finally, the benefit of using observations as an assessment tool to help students understand when they have mastered course material is numerous. This approach reduces anxiety markedly, raises students' esteem, puts them in control of their own destiny and emphasizes that they are

responsible for their own learning. The results they obtain are based upon their efforts, not the teacher's.

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