Attitude of Students Towards Cooperative Learning Methods at Knox Community

College: A Descriptive Study

By

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Abstract

The study was conducted to determine the attitude of students towards cooperative learning at a community college. Questionnaires were administered to ninety (90) students and twelve (12) lecturers, in-depth interviews were conducted with three lecturers and two classes were observed to investigate the students attitude towards cooperative learning methods, how it impacted on class participation and where or not cooperative learning was been practiced at the institution. The results indicated that due to various fears such as possible low grades students prefer to work on their own rather than within group due to various fears. There are numerous benefits that can be attributed to cooperative learning such as an enhancement in class participation as well as improvements student academic performance. Informal cooperative learning is practised at the institution, since groups are typically for short time periods and not all the principles of cooperative learning can be applied to the group activities.

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Chapter One

Introduction

There is continued debate about the most effective pedagogical technique to be used in higher levels of education. Some argue for (teachers) imposing knowledge on students, while others suggest that although structures are known within disciplines, it makes sense for students to discover them (Lasley and Ornstein, 2000 p. 20). In higher education there seems to be a move towards allowing students to be more directly involved in the teaching learning process. Even within the formal classroom setting lecturers can move away from the traditional method of teaching in which one effectively delivers a speech and students just passively listen and take notes, and allow more active engagement of students.

It is important to give a definition of the term didactic as utilized in this study. A very simplistic definition; the didactic form of instruction is a teacher centred approach that occurs when an educator mainly lectures (gives students information) instead of facilitating learning (guiding students to the information). In my teaching I have utilized the didactic method mainly because that is how I was taught. It however, appears that in my classroom this method is not the most effective learning tool. For instance, after teaching using the didactic method when students are given quizzes, they do well on the lower levels of Bloom's taxonomy i.e. simple recall questions, but whenever there is need for application, analysis, synthesis and evaluation students perform poorly. As such it can be said that the students' reasoning abilities are not being fully realized.

Typically in Jamaican classrooms at all levels of the educational sector a teacher centred approach seems to be utilised. At the tertiary sector, the lecturer is typically seen as a "free flowing spring" with students passively taking notes, asking very few or no questions.

My task as an educator is thus not being completely fulfilled. Therefore, my own question has been how to motivate my students to become stakeholders in their learning? To me one way to do so is to become less of the repository of knowledge that just freely gives students information, and more of a facilitator of student learning providing guidance. This is certainly not to say that I would discard the didactic method, but to be a more effective lecturer I would try to incorporate both the direct and indirect methods to ensure that no student is alienated. This should be done since individuals have different learning styles and lecturers should vary their teaching styles to cover the range of learning abilities.

It is the researcher's view that cooperative learning could be one way to improve the intellectual ability of students. Cooperative Learning is an instructional method in which students work together as a team to achieve a specific target or objective.There have been many studies that have been conducted that have outlined the value of cooperative learning. One such was conducted by Felder (1994) who found that students became so accustomed to working in groups that this work translated into other courses. For instance, in the third semester of the study the same group of students were in the class with a traditional instructor who utilised lectures. It was noted that in this traditional classroom students typically gained average of 50%, however, the group that was involved in the study of Cooperative learning gained an average of 72% on the first test

and 78% on a second test. Felder (1994) therefore concluded that the cooperative learning technique had the desired effect of changing students' work ethic.

Knox Community College was founded in 1975 as a coeducational institution offering mainly professional certificate and diploma courses. Its educational offering has evolved; currently the institution has University Council of Jamaica accredited Associate and Bachelor's degree programmes. There are four (4) campuses: Spalding (1975), Mandeville (1992), Cobbla (1995), and May Pen (2001). 70% of its current school population is enrolled in tertiary level programmes.

This study was undertaken at the Knox Community College among the student population on the May Pen campus which was one hundred and ninety eight (198) students enrolled. In my experience at this particular community college the lecturer is seen in many instances as the repository of all knowledge, with students doing very little to supplement their learning experience within the classroom. It is the researcher's view that if greater emphasis is placed on student-centred learning there will be more longevity to the learning experience of the students than just rote learning for an exam.

In the traditional lecture setting students always seem to understand the material, but when given tests or assignments to complete, students usually do poorly when asked to do more than simply recall. It seems then that in this context the traditional lecture may not be the most effective learning tool.

It is further believed that once persons actively participate in their own learning experience they will see an improvement in their academic performance. As Bourner (1997) states "teaching methods are not an end in themselves, but a means to an end, they are the vehicle (s) we use to lead our students to particular learning outcomes."

Statement of the Problem

At Knox Community College students expect the lecturer to be the vessel of knowledge with very limited input from them. In everyday interaction, it was very evident that many students just relied on the lecturer and did very little or no work outside the class setting. As a result they sometimes could not demonstrate a clear understanding of the subject matter and did not arrive at their own potential. It was my opinion that various teaching strategies would result in differences in student academic performance. It seemed that learning at this institution needed to be more student centred to ensure greater student understanding.

It was then my view that the implementation of student centred learning strategies such as cooperative learning would enhance student understanding and facilitate greater retention. Students nevertheless often resisted the effort to change the status quo believing that teachers were opting out of doing their duty and that this type of learning would not be beneficial to them. It was therefore my intention to investigate the views of students at Knox Community College May Pen Campus towards cooperative learning

Theoretical Framework

Two (2) theories were utilized to guide this research study. One was constructivism which emphasized the need for the learner to be actively engaged in the teaching – learning process. The second was the theory of *motivation* which suggested that it was not only the instructional style that influenced a students' academic performance, but how much that individual wanted to succeed.

Constructivism

The term refers to the idea that learners construct knowledge for themselves...each learner individually (and socially) constructs meaning...as he or she learns (Hein, 1991). Hein (1991) further notes that if we accept the constructivist position, we are inevitably required to follow a pedagogy which argues that we must provide learners with the opportunity to: a) interact with sensory data, and b) construct their own world. There are two (2) basic viewpoints that can be isolated within the context of constructivism. According to Good (1995), some academics subscribe to empiricism which is the 'belief that knowledge is anchored in the external environment and exists independent of the learner's cognitive abilities, and so they tend to speak about helping learners construct accurate concepts.' Other academics are more radical and subscribe to the view that 'knowledge resides in the constructs of learning' as cited in Lasley and Ornstein (2004) p. 20.

> Learning is an active process in which the learner uses sensory input and constructs meaning out of the world. The crucial action of constructing meaning is mental: it happens in the mind. Physical actions, hands-on experience may be necessary for learning, especially for children, but it is not sufficient; we need to provide activities which engage the mind as well as the hands. (Dewey called this reflective activity. (Hein, 1991)

Eggen, Jacoben,& Kauchak (2006) opine that the constructivist learning environment prioritises and facilitates the students' active role. The shift towards students' becoming more active learners they contend is due to the belief that learners are naturally curious. A student centred focus should be meaningful and the most effective activities involve students learning by doing (Eggen, et al. p. 7).

In the context of this study this theory emphasises the need for students to be allowed to be actively involved in the learning process rather than being solely passive learners. To do this effectively students must have hands on experience where they are allowed and encouraged to critically explore their learning environment. This type of instruction will enable more long term retention of knowledge, not just simply regurgitation.

Motivation

Woolfolk (2006) defines motivation at an internal state that arouses, directs and maintains behaviour. Motivation can either be intrinsic (internal stimuli) or extrinsic (external stimuli). At times it might be necessary to provide students with incentives for accomplishing a task, but ideally we should attempt to nurture our students to be intrinsically motivated.

> Motivation is a key component in learning. Not only is it the case that motivation helps learning, it is essential for learning. The ideas of motivation as described here are broadly conceived to include an understanding of ways in which the knowledge can be used. Unless we know "the reasons why", we may not be very involved in using the knowledge that may be instilled in us even by the most severe and direct teaching (Hein, 1991).

A major factor that influences students' academic performance is the belief that they can achieve. Eggen, Jacobsen, Kauchak (2006) note that teachers facilitate the internalization process and they do so effectively by designing learning activities that promote a positive, academic and cognitive self concept. Some students at Knox Community College May Pen Campus do not maximize their potential, but just want a passing grade a mere 50%.

Within the context of this study the variation in instructional strategy from a more teacher centred approach to one which is more student centred may not in itself result in an increase in academic performance. It is noted that a student's academic performance might not be linked to the method of instruction, but how the student perceives his/her own learning abilities and if he/she is intrinsically motivated to achieve.

Purpose of the Study

This study was intended to determine the views of students on cooperative learning at Knox Community College May Pen Campus.

Research Questions

The following questions were utilized to guide this research study.

1. What are students' attitudes towards cooperative learning?

2. Does cooperative learning facilitate greater student participation in class activities?

3. Are cooperative learning strategies practiced at Knox?

Significance of the Study

This study was intended to reinforce the idea that in the classroom lecturers should seek to guide instruction rather than control it. Many lecturers utilise informal cooperative learning strategies. The main aim of this study was to discover the extent to which cooperative learning is utilised at Knox Community College and the extent to which students consider it an effective learning strategy. This study could also influence the administrative policy of Knox Community College whether or not to facilitate a more student centred learning approach. There would be an increase in the knowledge about

the tertiary sector in Jamaica. More specifically, the outcome of the study could form the

basis for further research that could potentially determine whether or not cooperative

learning strategies should be promoted as a teaching-learning strategy within the tertiary

sector in Jamaica.

Delimitations of the Study

The study focused on four (4) groups of students in three (3) programmes of study

at Knox Community College May Pen Campus. The study was conducted over a six (6)

week period. The students were observed during class and were surveyed to determine

their view of the group learning process.

Limitations of the Study

The sample size used was small and therefore generalizations could not be made.

The length of the study was short just a four (4) week period during one semester and did

not allow a very detailed assessment to be made. The study was financed by the

researcher which limited the length of the study and target population.

Operational Definition of Terms

The following key terms have been more clearly defined within the scope of this

study.

- Attitude is the way of thinking, feeling or behaving.

- Cooperative Learning is an instructional method in which students work together as a
  team to achieve as specific target or objective.

- Motivation is a circumstance or set of circumstances that prompts a character to act in
  a certain way or that determines the outcome of a situation or work.

- Self esteem is the confidence an individual has in him/her self.

- Social skills the ability to interact with other people and to function in groups.

- Student Centred Learning is a method of learning where the student is responsible for his or her own learning.

Chapter Two

Review of Related Literature

Overview

A variety of literature was examined to provide the framework to this study. The first subsection attempts to briefly assess the difference between the teacher centred and student centred modes of instruction.

The second subsection briefly reviews some of the studies that have been undertaken by educators evaluating the move towards student centred instruction strategies. It will be seen that the overall research presented, supports student centred instructional strategies being utilized in combination with the traditional teacher centred lecture.

The third subsection outlines some of the historical development of cooperative learning as well as studies that evaluate cooperative learning strategies. Of the studies examined, all support utilizing cooperative learning strategies within the classroom. The researcher will first examine the direct versus the indirect teaching strategies.

Direct versus Indirect Teaching Methods

Direct teaching methods are the traditional instructional techniques where the lecturer imparts knowledge to the students, while the indirect methods are a student centred approach in which students work either independently or in teams on specific assignments. There are various such techniques including, but not exclusive of problem based learning, case study, cooperative learning and distance learning. In this approach students may even have a say in the assessment strategies/methods or tools.

In order to avoid misinterpretations in this study there needs to be a clear distinction between direct and indirect teaching strategies. Borich (2007) differentiates between the direct and indirect teaching strategies. He explains that 'when you present instructional stimuli to your learners in the form of content, materials, objects and events and ask them to go beyond the information given to make conclusions and generalisations, you are using the indirect model of instruction'. Direct instruction he contends is limited to (1) learning units of the content taught so they can be remembered and (2) composing parts of the content learned into a whole, so as rapid and automatic response can occur.

On the other hand, Eggen, Jacobsen & Kauchak (2006) use the terms active and passive learning to differentiate these two teaching methods. Active learning is the process by which "students are given considerable autonomy and control of the direction of learning activities," while passive learning is one in which "students are passive receivers of information, including listening to the teacher's presentation, being asked a series of closed questions and the practice of applying information already presented".

It is incumbent on instructors to ensure that they know their students, specifically their learning style and what stimulates critical thinking. In large classes this may not be possible; as such a variation of teacher centred and student centred strategies must then be incorporated to ensure that the range of student abilities is covered.

The teaching -learning process is twofold, with teachers providing instruction and guidance to students, but they are not the repository of *all* knowledge. It is incumbent on students to be actively engaged in the learning process. In constructivism then the teaching and learning process should not be seen as being on two parallel planes, but are

a continuum. Bransford et al, 'argue that the appropriateness of a particular teaching (method) depends on (1) the nature of the material to be learned, (2) the nature of the skills, knowledge and attitudes that learners bring to the situation, (3) the goals of the learning situation and the assessment used to measure the learning goals'
(cited in Lasley and Ornstein, 2000 p. 196 -197).

Studies Related to Student Centred Learning

In this section, the researcher will examine various studies that have been undertaken to justify the use of active learning in the classroom.

What then is active learning? According to Catalano & Catalano (1997) active learning occurs when "the student is at the centre of focus, while passive learning occurs when the teacher is the focus." In the typical college classroom very little is required of the student who is the passive learner, "dutifully accepting all data transmission until the final inspection." Catalano & Catalano (1997) assert that learning is rarely passive, but is more effective when "students are encouraged to become actively involved in their own learning." To validate their view of student centred learning, the researchers conducted a study at two (2) separate universities. At Louisiana State University an undergraduate course in fluid dynamics was divided into two (2) sections one was taught using traditional teacher centred style and the other using the student centred model. From the examination results student performed better in student centred situations and were more pleased with their professors.

The claim of greater student performance is further made by McDowell (2001) who undertook a research project to "examine the effectiveness of student centred learning approaches to teaching a course Critical State Soil Mechanics." This he notes is

a very theoretical subject area which is viewed by many engineers as being complicated. To facilitate greater student involvement the lecturer developed a "teach yourself" document that greatly simplified tasks that students were required to accomplish the coursework. To assess the effectiveness of this approach various methods were utilised. Students were given a questionnaire from which McDowell (2001) was able to ascertain their views on student centred learning. The coursework grades and examination marks were assessed to indicate whether there were any significant changes in student performance. In the final analysis McDowell (2001) concluded that students believe that they learnt more from the course exercise that is the teach yourself document, than if the material had been lectured in the traditional manner.

This key factor is not only in an attempt to implement student centred learning, but the overall learning experience of a student.

In addition, Chanchalor & Chomputong (2004) set out to implement student centred strategies for an electronics course. One key hypothesis of this study was that the "student centred strategy group would obtain higher scores than the traditional strategy group." The group of thirty-two (32) students were split up into control and experimental groups that were pretested and protested. The control group took the course by the traditional method, while the experimental group took the course with student centred strategy that was designed for the experiment. The researchers found that there was no significant difference in scores in the pre-test between the experimental and control group. However, the researchers discovered that the mean pro-test score of the experimental group was higher than that of the control group. There was consensus that more hands on activities such as problem based learning actually increased student participation and

encouraged creativity. The student centred strategy exposed students to various sources of information and gave them the opportunity to exercise the mental process of information filtering (p. 77). This would help to facilitate one of the aspects of tertiary education to inculcate higher cognitive thinking and comprehension among students.

Other researchers have attempted to vary teaching strategies in an effort to gauge student performance. On the other hand Barraket (2005) is an advocate of a marriage of both teacher centred and student centred approach with an aim to enhance student centred teaching methods in a master's level social research methods course. This was done through the introduction of various techniques namely: case study, problem based learning, group work, role play and stimulation. From this study it was concluded that the move towards student centredness had a positive influence on "student performance, learning experience and subject evaluation." The researcher had to modify aspects of the curriculum to facilitate these approaches. In the final analysis student performance in 2004 was found to be higher than that of 2003. In a typical class Barraket (2005) allowed students to work in the group setting followed by the traditional lecture which resulted in greater participation and understanding of the topic. As a consequence Barraket (2005) is an advocate for a holistic approach incorporating both student centred and traditional lecture instructional format.

This holistic approach is further concretised by Preszler (2005) a university professor who found that many students failed biology examinations. As a result he undertook a new strategy to attempt to improve student performance; this was done through supplemental instruction. A pilot test was conducted in 2002 which revealed that students performed better at the single cooperative concept mapping workshop. By 2004

this workshop became more intrinsically a part of the weekly teaching structure. The researcher split students into three (3) groups and varied the teaching strategy for each group prior to the three (3) examinations for the course; the strategies were purely teacher centred, purely student centred and a mix of both methods. At the end of this study it was found that the students performed better on a examination when there was the mixture of both student and teacher centred techniques.

On the other hand, studies have revealed that student performance is better in a teacher centred class. One such study was conducted by Belliveau, De Freita, Giles, Ryan and Ryan (2006). These researchers undertook a study to examine the issues surrounding student centred and learner centred classes using a statistically controlled design in an introductory statistics course. A curriculum was designed that had two (2) formats: teacher centred and student centred approaches. Class content for both formats were similar and delivered by the same pre-service teacher. In this study it was found that the teacher centred approach appeared to give students a slight advantage over students in the student centred class (p. 220). Belliveau et al (2006) contend that their study is important, because it emphasised the need for balance between student and teacher centred strategies. This of course would be so because individuals have different abilities and learning styles. However, the researchers note that the short term nature of the study may have skewed the results towards the teacher centred class which most students are more comfortable with.

One way to facilitate a more student centred approach within the classroom is by utilising cooperative learning strategies.

What is Cooperative Learning?

- Instructional Strategies Online defines cooperative learning as an instructional strategy that simultaneously addresses academic and social skill learning by students. Cooperative learning is a strategy which involves students in established, sustained learning groups or teams.

- Jolliffe (2007) indicates that cooperative learning requires pupils to work together in small groups to support each other to improve their own learning and that of others.

- Cooperative learning is a successful teaching strategy in which small teams, each with students of different levels of ability, use a variety of learning activities to improve their understanding of a subject. Each member of a team is responsible not only for learning what is taught but also for helping teammates learn, thus creating an atmosphere of achievement. Students work through the assignment until all group members successfully understand and complete it. (cited http://edtech.kennesaw.edu/intech/cooperativelearning.htm).

This type of learning strategy means that the teacher's role changes as Alison King (1993) says "from sage on the stage to guide on the side" (cited at http://learningandteaching.dal.ca/taguide/WhatisCooperativeLearning.html).

According to Stahl (1994) during the past decade, cooperative learning has emerged as the leading new approach to classroom instruction. Numerous research studies have revealed that students completing cooperative learning group tasks tend to have higher academic test scores, higher self-esteem, greater numbers of positive social skills, fewer stereotypes of individuals of other races or ethnic groups, and greater

comprehension of the content and skills they are studying (Johnson, Johnson, & Holubec 1993; Slavin 1991; Stahl & Van Sickle 1992 as cited in Stahl 1994).

While there is growing consensus on the benefits of cooperative learning Lake (2001) as cited in Ransdell and Moberly (2003) reports that students see this alternative teaching style as unscholarly; rather akin to unstructured group work where one student works diligently, to carry the group, and the others do little or nothing. A major concern of some students is that even if all members do not pull their weight;, all students in the group receive the same grade, regardless of their contribution (Kagan, 1995 as cited in Ransdell and Moberly, 2003). Students' course evaluations of their professors suggested that students placed a lower value on cooperative learning strategies than they did on the more traditional lectures (Lake, 2001). This shows students uneasiness with the idea of cooperative learning. It is noted that students have various fears about group work. Some of the common fears about working with groups include student fears that each member will not pull their weight as a part of the group; students are also scared that their grade will be lower as a result of the group learning versus learning they do individually (as cited http://www.gdrc.org/kmgmt/c-learn/methods.html).

In examining the literature on cooperative learning it was noted that the various sources consulted agreed that to have a successful cooperative learning environment a number of essential elements or requirements must be met. The exact number, name, and order of these requirements vary from one author to another. Nearly all agree that, in one way or another, the elements listed below are essential.

There are five (5) basic elements of cooperative learning (Instructional strategies Online; Johnson, Johnson & Holubec (1991); Roger & Johnson (1994). It is only under

certain conditions that cooperative efforts may be expected to be more productive than competitive and individualistic efforts. Those conditions are:

1. Clearly perceived positive interdependence.

2. Considerable promotive (face-to-face) interaction.

3. Clearly perceived individual accountability and personal responsibility to achieve the group's goals.

4. Frequent use of the relevant interpersonal and small-group skills.

5. Frequent and regular group processing of current functioning to improve the group's future effectiveness.

All healthy cooperative relationships have these five basic elements present. This conceptual "yardstick" should define any cooperative relationship (Roger and Johnson (1994).

1. Positive Interdependence

Team members perceive that they need each other in order to complete the group's task "sink or swim together"; this requires pupils in a small group to contribute to the learning of the group (Johnson, Johnson, & Smith (1998); Jolliffe (2007). According to Jolliffe (2007) pupils are required to work in a way so that each member needs to the other to complete the task. It's a feeling of "one for all, all for one".   Johnson, Johnson, & Smith (1998) opine that instructors may structure positive interdependence by establishing mutual goals (maximize own and each other's productivity), joint rewards (if all group members achieve above the criteria, each will receive bonus points), shared resources (members have different expertise), and assigned roles (summarizer, encourager of participation, elaborator).

2. Face-To-Face Promotive Interaction

Students promote each other's learning by helping, sharing, and encouraging efforts to learn. Students explain, discuss, and teach what they know to classmates. (Johnson, Johnson & Smith (1998). According to Roger & Johnson (1994) positive interdependence results in promotive interaction, which may be defined as individuals encouraging and facilitating each other's efforts to achieve, complete tasks, and produce in order to reach the group's goals. Although positive interdependence in and of itself may have some effect on outcomes, it is the face-to-face promotive interaction among individuals fostered by the positive inter-relationships, and psychological adjustment and social competence.

3. Individual Accountability

Jolliffe (2007) uses the phrase "no hitchhiking" to indicate that each member of the group is accountable for completing his or her part of the work. It is important that no one can hitchhike on the work of others. It requires each pupil in the group to develop a sense of personal responsibility to learn and help the rest of the group to learn also. According to Stahl (1994) the reasons why teachers put students in cooperative learning groups is so all students can achieve higher academic success individually than were they to study alone. Consequently, each student must be held individually responsible and accountable for doing his or her own share of the work and for learning what has been targeted to be learned.

4. Social Skills

According to Johnson, Johnson & Holubec (1991) groups cannot function effectively if students do not have and use the needed social skills such as leadership, decision-making, trust-building, communication, and conflict-management skills. For the cooperative learning environment to be successful teachers should teach these skills as purposefully and precisely as academic skills and the learner should utilise the skills they have learnt in completing assigned activities (Johnson, Johnson & Holubec (1991); Stahl (1994); Johnson, Johnson, & Smith, K. (1998).

As Stahl (1994) points out merely because students are placed in groups and expected to use appropriate social and group skills does not mean students will automatically use these skills. To work together as a group, students need to engage in such interactive abilities as leadership, trust-building, conflict-management, constructive criticism, encouragement, compromise, negotiation, and clarifying. Teachers may need to describe the expected social interaction behaviors and attitudes of students and to assign particular students specific roles to ensure that they consciously work on these behaviors in their groups.

5. Group Processing

According to Johnson, Johnson & Holubec (1991); Johnson, Johnson, & Smith, (1998) groups need specific time to discuss how well they are achieving their goals and maintaining effective working relationships among members. Teachers need to ensure that there is some structure to the group processing. This can be done by assigning such tasks as (a) list at least three member actions that helped the group be successful and (b) list one action that could be added to make the group even more successful tomorrow. It

is very important for the teachers to also monitor the groups and give feedback on how well the groups are working together to the groups and the class as a whole.

For societal cohesion it is necessary for individuals to cooperate and collaborate. With that in mind cooperative learning at its core enables individuals to learn the key skills to survive in society. As such the cooperative learning strategies not only attempts to promote academic performance, but to enable individuals to develop the social skills for the sustenance of the society.

There are various theories that form the foundation for cooperative learning strategies. Johnson, Johnson & Holubec (1998) outline three theoretical perspectives that have guided research on cooperative learning: social interdependence, cognitive-developmental, and behavioral.

Social Interdependence Theory

According to Johnson et al (1998) the Social Interdependence Theory indicates that interaction with other people is essential for human survival. In an education setting, social interdependence refers to students' efforts to achieve, develop positive relationships, adjust psychologically and show social competence.

The social interdependence perspective of cooperative learning presupposes that the way social interdependence is structured determines the way persons interact with each other. Moreover, outcomes are the consequence of persons' interactions. Therefore, one of the cooperative elements that has to be structured in the classroom is positive interdependence or cooperation. When this is done, cooperation results in promotive interaction as group members encourage and ease each other's efforts to learn (Johnson, Johnson, & Holubec, 1998).

Cognitive Developmental Theory

Johnson et al (1998) outline the cognitive developmental perspective is grounded in the work of Jean Piaget and Lev Vygotsky. Piagetian perspectives suggest that when individuals work together, sociocognitive conflict occurs and creates cognitive disequilibrium that stimulates perspective-taking ability and reasoning. Vygotsky's theories present knowledge as a societal product

Behavioural Learning Theory

The behavioural-social perspective presupposes that cooperative efforts are fuelled by extrinsic motivation to achieve group rewards (academic and/or non-academic) (Johnson, Johnson, & Holubec, 1998).

The following section outlines three (3) cooperative learning strategies. There are a host of other techniques that can be utilised within a classroom.

Examples of Cooperative Learning

- In the Think Pair Share adopted from Lyman, 1992 there are two members per group. This technique includes the following three (3) components.

    1. Teacher asks a question or poses a problem. Students think by themselves.

    2. Students pair together and discuss their ideas.

    3. Individual students are called upon to share their answers (or answers of their partners) with the whole class. (Baloche, 1998 p. 102)

In this particular cooperative learning technique each student will be given an opportunity to think and exchange ideas with their peers. According to Baloche (1998) a key benefit of Think-Pair Share is that interpersonal and small group learning skills such as sharing

an idea, listening carefully, asking clarifying and probing questions and paraphrasing are being facilitated.

- Jig Saw

  As Baloche (1998) indicates the Jig-Saw Method as adopted from Aronson, Blaney, Stephan, Sikes & Snapp, 1978 incorporates a group size of three or four and has the following components.

  1. Teacher divides the material into section – one section for each student.

  2. Student prepare their own section of material – they read, conduct experiments, solve problems with the help of manipulatives. The student's preparation might be done alone – in class or for homework – or with "preparation partners." This decision is made by the teacher, depending on the nature of the assignment and abilities of the students.

  3. Students meet in "practice pair." Each student meets with someone from a different group who has learned the same material. The purpose of this group is to both review and reconceptualise the material and to plan how the material might be best taught or presented to teammates.

  4. Students present their work to other members if their groups. Teacher encourages students to ask students and to engage in genuine discussion, not just passive listening.

  5. Students reflect on the presentation and the information they have learned.

  6. Individual mastery of students is assessed.

Baloche (1998) indicates that this technique give students opportunity to think by themselves specifically they conceptualise, reconceptualise and teach others. In this

technique various interpersonal and group learning skills are facilitates such as sharing of ideas; listening carefully; organizing; teaching; synthesizing information and asking clarifying and probing questions.

- Roundtable

  The typical group size is three or four members. The following components are involved.

  1. Teacher asks the question or poses a problem. Students think and write by themselves.

  2. In groups of three or four students "go around the table" and in turn share their responses. (Baloche, 1998 p.103)

The following section outlines some of the literature examining cooperative learning.

Studies Related to Cooperative Learning

Ransdell and Moberly (2003) opine that cooperative learning is a viable but underused teaching-learning tool. They contend that educators can best utilise this teaching strategy in their classrooms more effectively if they themselves were active participants in their teacher education training programme. They asked these three (3) questions.

1. Can we change the post secondary instructional paradigm from predominantly lecturers to a student participatory teaching and learning style such as cooperative learning?

2. How do teacher education students internalise cooperative learning techniques into their cognitive domain, so that they can use the techniques with their future students?

3. In our merit based American society marked indelibly with the ideals of individualism and competition to favour competition and collaboration?

There are other educators who have conducted studies within their own classrooms. One such is Mourtos (1997) who implemented cooperative learning strategies in engineering courses over a four year period commencing in Spring 1993. He made an effort to implement these strategies in projects, lecturers and exams. Mourtous is of the view that cooperative learning in engineering courses is important since:

1. Students learn better when working together than in isolation.

2. It forces students to practice team and small group communication skills.

Based on this four year study it was discovered that students performed better, learnt and integrated much more within their classes.

In other societies cooperation rather than competition is promoted. In this regard Meng (2005) examines the application of cooperative learning in the Chinese classroom. He found that the nature of the Chinese culture which is marked by collectivism enabled this learning style to be more successful. Collectivism places emphasis on a more extended self which is understood in a wider context that is in relation to a physical and social environment which one seeks to harmonise (Hui & Villareal, 1989 as cited in Meng 2005). Meng (2005) outlines an experiment conducted by Tang (1996) in Hong Kong in which he tested Chinese students' habitual learning approaches, tendency to collaboration and their distribution of test and assignment. Based on the findings Chinese students tended to be in cooperative learning groups which were at times spontaneous, student centred and based on group effort-individual reward structure. This cultural phenomenon of collectivism is opposite to the western idea of individualism. Meng

(2005) in concluding indicates that cooperative learning is an effective motivating style and can be applied to many instructional fields. He however noted that students' characteristics and cultural backgrounds must be considered; as such it should be flexible and change depending on the situation.

Other studies of cooperative learning also conclude that it is an effective teaching-learning strategy one such by Felder & Brent (1994). Felder taught five chemical engineering courses in five (5) consecutive semesters using several non-traditional instructional methods including cooperative (team-based) learning. The aim was to examine the benefits, problems and solutions to cooperative learning in technical courses. Felder (1994) found that students became so accustomed to working in groups that this work translated into other courses. For instance, in the third semester of the study the same group of students were in the class with a traditional instructor who utilised lectures. It was noted that in this traditional classroom students typically gained average of 50%, however, the group that was involved in the study of Cooperative learning gained an average of 72% on the first test and 78% on a second test. Felder (1994) therefore concluded that the cooperative learning technique had the desired effect of changing students' work ethic.

There have been surveys conducted in Third World cities such as Nigeria to assess student views of cooperative learning strategies. One such as conducted by Akinbobola (2009) to discover the attitude of students towards the use of cooperative, competitive and individualistic learning strategies in Nigerian senior secondary school physics. The research design for this study was quasi-experimental. There were a total of one-hundred and forty (140) students taking part in the study who were selected by a

random sampling technique. A structured questionnaire titled Students' Attitude Towards Physics Questionnaire (SATPQ) on 4-point scale was used to collect the data. Poor student performance can be attributed to poor teaching methods, unqualified and inexperienced teachers; poor student attitude toward physics, poor learning environment and gender effect (Ivowi, 1997 as cited in Akinbobola (2009). Also, in the present Nigerian educational system, competition is valued over cooperative learning strategies (Akinbobola, 2004).

The findings showed that cooperative learning strategy was the most effective in facilitating students' attitude towards physics. This was then followed by competitive strategies with the individualistic learning strategies being seen to be the least facilitative. According to Akinbobola (2009) this study was in line with the findings of Johnson and Johnson (1989) that cooperative learning strategy promotes more positive attitudes toward the instructional experience than competitive or individualistic strategies. Akinbobola(2009) concluded that the result is not surprising because in cooperative learning, students are trained on how to interact positively, resolve disputes through compromise or mediation and encourage the best performance of each member for the benefit of the group. Akinbobola (2009) contends that when students are successful, they view the subject with a very positive attitude because their self-esteem is enhanced..

A study by Abu & Flowers (1997) was conducted to determine the effects of the cooperative learning approach of Student Teams-Achievement Divisions (STAD) on the achievement of content knowledge, retention, and attitudes toward the teaching method. The researchers utilized a quasi-experimental research design to compare the competitive and cooperative learning classroom structure. An achievement test, consisting of items

from the state competency test-item bank for the course, and an attitude questionnaire were administered immediately following instruction on the unit of special nutritional needs (Abu & Flowers 1997).

Abu & Flowers (1997) found that there was also no significant difference in student attitudes toward the teaching methods. They contend that even though the study showed no significant difference between competitive and cooperative learning, the literature suggests there may be additional reasons to use cooperative learning. For instance, the ability to work with others within a group and to develop interpersonal skills may be justification for using cooperative learning strategies. Abu & Flowers (1997) therefore contend that cooperative learning methods were as effective as non-cooperative methods with regard to achievement and retention, so concerns about the effectiveness of cooperative learning methods in these areas have been addressed.

Another research consulted was conducted within the secondary educational context in Jamaica. Kirby (2007) conducted an action research of cooperative learning in an Accounting Class at a High School in Rural Jamaica. The researcher's aim was to find out how effective the use of cooperative learning is in improving academic performance among Grade Nine (9) students. The study was a descriptive design with a sample size of thirty (30) students. Kirby (2007) collected the data through formal questionnaires, learning journals and focus group interview. The researcher discovered that based on the attitude questionnaire only 28% of students thought that accounting class was interesting using traditional teaching strategies, however this increased to 86% after the implementation of cooperative learning strategies. Overall, students believe that

cooperative learning positively impacted on their learning experience (Kirby 2007 p. 76). The following includes the specific conclusions from Kirby's study.

- There was an improvement in the minimum and maximum scores of students. Students believed that cooperative learning allowed for a more relaxing environment where they exhibited better understanding. (p. 76)

- Students' self esteem was enhanced; they stated that they felt more comfortable in answering questions. Student were more accepting of the help received from peers and they did not feel inferior to any other student as they all helped one another. (p. 77)

- Students developed team spirit during and after implementation. Competition was eliminated and all group members were focused on ensuring that everyone understood what was being taught. (p. 77)

The following question came to mind in assessing cooperative learning in our present societal context. Is cooperative learning practical in a society that requires social cohesion, but places emphasis on individualism and promotes competition?

Individualism and competition seemingly are greater components of our educational system. According to Roger & Johnson (1994) there are three basic ways students can interact with each other as they learn. They can compete to see who is "best," they can work individualistically toward a goal without paying attention to other students, or they can work cooperatively with a vested interest in each other's learning as well as their own. Of the three interaction patterns, competition is presently the most dominant. Research indicates that a vast majority of students in the United States view school as a competitive enterprise where one tries to do better than other students. This

competitive expectation is already widespread when students enter school and grows

stronger as they progress through school (Johnson & Johnson, 1991). Cooperation among

students-who celebrate each other's successes, encourage each other to do homework,

and learn to work together regardless of ethnic backgrounds or whether they are male or

female, bright or struggling, disabled or not, is still rare.

Summary

The majority of the material consulted revealed that student centred strategies are

key to unlocking students' potential. This is so because, students receive hands on

experience. Student centred learning also enables students to interact more intimately

with their lecturer as well as their peers. Only Belliveau et al (2006) found that the

teacher centred approach facilitated greater student performance. The authors of the study

suggest that for student centred strategies to become a part of formal instruction students

would need to be more aware of what is expected of them and the strategies would have

to be implemented gradually. The general consensus of the studies consulted indicates

that student centred learning strategies are very effective tools in facilitating greater

student learning.

Cooperative learning has theoretical grounding in various theories of psychology.

The idea is that man is a social being as such various forms of social interaction are

essential for human societal survival. Within the classroom the concept of cooperation

can be promoted since individuals will be learning to work together for the overall benefit

of the group. The studies indicate that cooperative learning is a very useful and beneficial

strategy. However, can cooperative learning flourish in an individualistic society?

Chapter Three

Research Methodology

The study was undertaken using both quantitative and qualitative methods. It consisted of a questionnaire survey for students and lecturers and in-depth interviews for lecturers.

Research Design

This was mainly a descriptive study that was conducted to determine the views of students towards cooperative learning strategies at Knox Community College. It was anticipated that this study was best undertaken with a mixed methodology.

The questionnaire survey technique is a very effective quantitative technique since it enables large scale numerical data to be obtained over a short period of time. In this particular study the researcher wanted to gain numerical data to indicate students' views on cooperative learning.

The researcher also wanted to gain data using qualitative techniques. This was done by interviews and participant observation. The researcher intended to interview four (4) lecturers to gain insight into their use of cooperative learning strategies in their classrooms. The interview is a useful strategy since it enables respondents to give their views on the topic. It was also necessary for the researcher to observe the teaching techniques the lecturer used in the classroom with a view of identifying particular types of cooperative learning strategies being utilized as well as to assess the attitude and behavior of students within their group setting in the classroom.

Population

There were one hundred and ninety-eight (198) students enrolled in tertiary level programmes at the Knox Community College May Pen Campus. This population was comprised of students pursuing four (4) programmes of study:

- Associate Degree in Management Information Systems (ADMIS) Year 1 and 2 Full Time;

- Associate Degree in Business Studies (ADBS) Year 1 and 2 Full Time and Part Time;

- Associate Degree in Environmental Studies (ADES) Year 1 and 2 Full Time and Part-Time; Bachelors Degree in Environmental Studies (BDES) Years 3 and 4 Full Time and Part Time and

- Bachelor in Education (BEd.) Year 1 and 2 Part-Time.

There were a total of fifteen (15) lecturers Full-Time and adjunct faculty members on the May Pen campus. These lecturers had various levels of expertise and taught diverse courses that required varying teaching methods to better facilitate students understanding and retention. This particular institution was chosen because the researcher worked at the institution and it was not difficult to obtain data by interviews, questionnaire survey or observation.

Sample

Table 1 gives a summary of how the researcher intended to determine the acceptable sample size for this particular study. The research utilized probability sampling methods in order to obtain the acceptable number of students for the study. One hundred (100) students were viewed as a representative sample. Based on the class

list for each of the four (4) programmes of study the researcher generated an overall list with students' names being placed in alphabetically order. The researcher then used a systematic random sampling in which every 5th person was chosen for inclusion in the study.

All fifteen (15) lecturers formed a part of the sample; each was given a questionnaire to complete. Purposeful sampling was used to identify the lecturers to be interviewed. This technique was utilized since the researcher had knowledge of four (4) lecturers who used cooperative learning techniques within in their classroom.

Table 1

Number of Participants and Sample

Participants	Population (N)	Sample (n)
Students	198	100
Lectures	15	15
Total	213	115

Data Collection

A variety of methods were utilized to obtain the relevant data for this study. Table 2 gives a summary of how the research attempted to collect the data. The questionnaire is a very effective data collection tool; it enables large volumes of data to be collected over a short period of time and can be self administered. The questionnaire was developed by the researcher. Students chosen were given the questionnaire and a few minutes to respond and return to the researcher. This questionnaire was comprised of twenty-five (23) questions which were a combination of open and closed ended items. These questions included a variety of items: such as Likert scale. The instrument had four (4)

sections: section 1: demographic; section 2: assessment of group involvement; section 3: attitudinal scale and section 4: free response (Appendix A).

Questionnaires were given to all fifteen (15) lecturers. This instrument consisted of ten (10) questions with both closed and open items. These questions included a variety of items such as Likert scale. The instrument was comprised of three (3) sections: section1: demographics and section 2: attitudinal scale and section3: free response is shown in Appendix B. Interviews were conducted with three (3) lecturers who were purposefully chosen. The interviews were structured and consisted of seven (7) open ended questions which were utilized to allow individuals to give greater depth to their responses as indicated in Appendix C.

The researcher also observed two (2) classes each of the two (2) lecturers to validate whether or not the lecturers are indeed utilizing cooperate learning/teaching strategies. The researcher also observed student behaviours within the classroom setting and made field notes of observations.

Table 2

Summary of Research Questions and Data Collection Methods

Research Question	Data Collection Methods
1. What are students' attitudes towards cooperative learning?	- Questionnaire for students (items 5-13, 19, 23) - Observation. - Field notes. - Structured interviews with lecturers.
2. Does cooperative learning facilitate greater student participation in class activities?	- Questionnaire for students. (items 14 - 17) - Structured interview with lecturers. - Questionnaire for lecturers. (items 7 – 9)
3. Are cooperative learning strategies practiced at Knox?	- Questionnaire for students. (items 18, 20 - 22) - Structured interviews with lecturers. - Observation. - Questionnaire for lecturers.

Pilot Testing

Prior to conducting this study the researcher took steps to test the data collection tools. A group of ten (10) students were randomly selected and given questionnaires for the researcher to attempt to see if the instrument would collect useful data. The interview schedule and the lecturer's questionnaire were pretested with three (3) randomly selected lecturers. Pilot testing tries to identify any misunderstanding, ambiguities and useless questions. The participants were asked to comment on the instruments. Comments were accepted and revisions were made to the instrument.

Reliability and Validity

It was essential that this research was reliable and valid as such the researcher ensured that steps were taken in this regard. The researcher ensured that the items on the questionnaire and interview sheet used represented the topic being tested. The researcher also gained the assistance of individuals who had expertise in the knowledge of research.

The researcher used triangulation that is different methods to collect data such as survey questionnaires, interviews and observation. This allowed the researcher to better interpret inaccuracies or inconsistencies that arose. This ensured the trustworthiness of the data.

Data Analysis

Various methods were utilized to analyze the data; a summary of this is given in Table 3. The data collected from observation and interviews were coded to ensure that the researcher was making accurate inferences. The researcher utilized Statistical Package for the Social Sciences (SPSS) 14.0 to aid in data analysis. This software provided valuable quantitative information in the form of frequency distribution and percentages.

Table 3

Summary of Research Questions, Data Collection and Data Analysis

Research Question	Data Collection Methods	Data Analysis Methods
1. What are students' attitudes towards cooperative learning?	• Questionnaire for students (Items 5-13, 19, 23). • Observation. • Field notes. • Structured interview with lecturers.	• Frequency, Percentages, Tables, Graphs. • Qualitative Description • Qualitative Description • Qualitative Description • Qualitative Description
2. Does cooperative learning facilitate greater student participation in class activities?	• Questionnaire for students (Items 14 – 17). • Interview with lecturers. • Questionnaire for lecturers (Items 7 – 9)	• Frequency, Percentages, Tables. • Qualitative Description. • Frequency, Percentages, Tables.
3. Are cooperative learning strategies practicised at Knox?	• Questionnaire for students (Items18, 20-22). • Interview with lecturers. • Observation. • Questionnaire for lecturers. (Items 5,6,10)	• Frequency, Percentages, Tables. • Qualitative Description • Qualitative Description. • Frequency, Percentages, Tables.

Ethical Issues

The crux of any good research is ensuring that ethical standards are adhered to. In this study the researcher ensured that the rights of all participants were safe guarded. The researcher received the informed consent of all participants prior to the start of this study and allowed voluntary participation of all subjects.

Prior to issuing questionnaires and conducting interviews participants were not asked to give their names thus maintaining their privacy and anonymity (see pp. 84 for Cover Letter and pp.85 for Informed Consent Form). The researcher also obtained the permission of the principal of Knox Community College before commencing. Very importantly the researcher obtained the approval of the University of Technology Ethics Committee prior to conducting this study (see Appendix I For Ethical Clearance Certificate).

Chapter Four

Results

Overview

This chapter provides a description of the results of the study. Specifically, there are details of the findings of two separate questionnaire surveys that involved a final sample of ninety (90) students and (12) twelve lecturers, observations of two (2) lecturers classes and in-depth interviews involving three (3) lecturers – two (2) females and one (1) male. The results of the questionnaire survey are presented both quantitatively and qualitatively, while the results of the observations and interviews are presented qualitatively. The findings are presented under headings which correspond to the three research questions of the study.

Response Rate

Table 4

Number of Questionnaires Distributed and Percentage of Usable Returns

Group	Number of Questionnaires Distributed	Usable Returns	Non-Returns	Percentage Usable Returns
Students	100	90	10	90.0
Lecturers	15	12	2	80.0
Total	115	102	12	88.6

As can be seen in Table 4 of the one-hundred (100) questionnaires that were distributed to students, ninety (90) were completed and returned; while of the fifteen (15)

questionnaires distributed to lecturers, twelve (12) were completed and returned. Only three (3) of the four (4) lecturers who were identified to be interviewed were available to participate in the study – two (2) females and one (1) male. In regards to the observation the researcher was only able to visit two (2) of the four (4) lecturers' classes once. Based on the time frame in which the research was conducted, the rate of response for this research was appropriate and sufficient.

Demographic Data

The data included the gender, age and department of participants. In particular, the final sample consisted of thirty-six (36) male and fifty-four (54) female students, as well as four (4) male and eight (8) female lecturers. Table 5 indicates the distribution of participants by department.

Table 5

Number and Frequency of Respondents by Department

Department	Student		Lecturers	
	Frequency	Percentage	Frequency	Percentage
Business	28	31.1	2	16.7
Computer	15	16.7	1	8.3
Environmental Studies	47	52.2	4	33.3
Social Science	-	-	2	16.7
Natural Science	-	-	1	8.3
Communication	-	-	2	16.7
Total	90	100.0	12	100.0

Table 6 below outlines the age profile of participants in the study. The majority of student

respondents (31.1%) were in the 20 – 25 age group; while the majority of lecturers were

in the 26 – 30 age group.

Table 6

Age Distribution of Participants Involved in the Study

	Student		Lecturers	
Age	Frequency	Percentage	Frequency	Percentage
< 20	10	11.1	-	-
20 – 25	28	31.1	3	25.0
26 – 30	26	28.9	4	33.3
31 – 35	15	16.7	3	25.0
> 35	11	12.2	2	16.7
Total	90	100.0	12	100.0

Section 2

The following sub-headings correspond to the three (3) research questions outline the specific results of the study.

Students' Attitude Towards Cooperative Learning

The following section provides a summary of the responses given on the student questionnaire items.

Table 7

Typical Group Size Of Students Groups

Group Size	Frequency	Percentage
2 – 4	35	38.9
5 – 7	51	56.7
8 – 10	4	4.4
Other	0	0
Total	90	100.0

As indicated in Table 7 the majority (56.7%) of students typically work in groups of five (5) and seven (7) individuals; 38.9% of students indicated they typically work in groups of two (2) and four (4) persons, while only 4.4% indicate that their typical group size is between eight (8) and ten (10) individuals.

Student Questionnaire Item:

Do you prefer to work on your own rather than in a group? Based on assessment of questionnaires 78.9% of respondents indicated that they would prefer to work on their own; students gave such reasons such as "there is a greater level of discussion, with more

ideas as such I learn more, I get to socialize a lot more and it is easier to catch up".

21.1% of respondents indicated that they would prefer group work. Student gave such

responses as "I learn better by myself and accomplish more on my own since I can

manage my time better and work at more own pace". Some students indicated the

difficulties of group members deters them from actively participating in group work such

as "group members are sometimes unreliable and lazy and tend to leave most of the work

on one person and still get the same grade" as well as "sometimes it is difficult to get

people to work together and many times communication breakdown occurs".
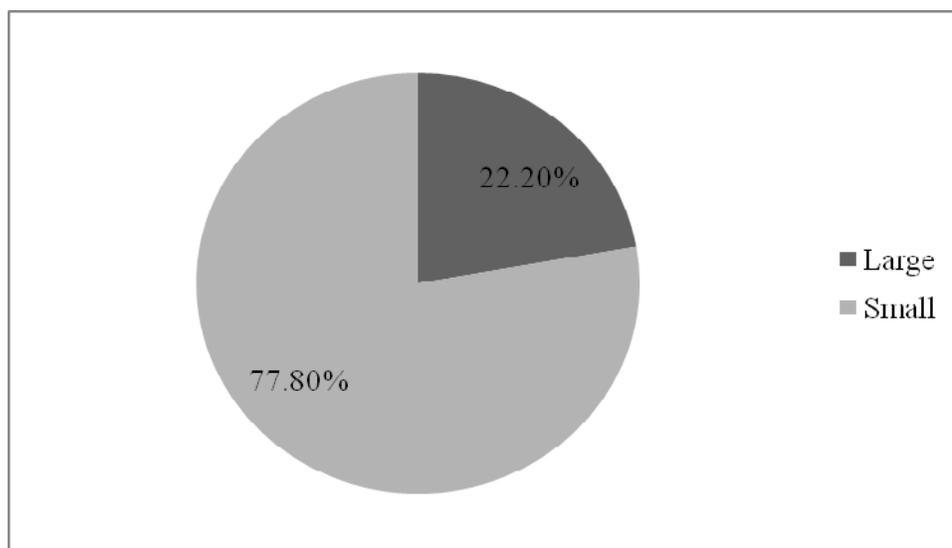
Figure 1: Students' Preferred Group Size

Based on Figure 1, 77.8% of the students prefer to work in small groups (4 or less

persons), while only 22.2% of the students prefer large groups (7 or more persons).

The following section gives a summary of the observations made of two (2) lecturers' classes.

Student Questionnaire Item:

Would you be more comfortable if more group activities were incorporated in your course of study? Give a reason for your answer?

Based on students responses 64.4% indicated that they would be comfortable with cooperative learning; student gave reasons such as "more information is imparted in groups as such greater learning takes place", "group work is more time efficient as such it facilitates easier completion of assignments" and "in some situation group work relieves stress of studying especially when I have a limited time to complete assignments". 35.6% of students indicated that they would not be comfortable if more cooperative learning methods where implemented; they gave reasons such as "since I prefer to work alone group work spoils my learning style", "I like working by myself therefore, when I have less interaction with people I produce excellent work" and "I do not like group work simply because groups may fail".

Student Questionnaire Item:

Would you prefer if your lecturers used more group activities/assignments? Please give reason/reasons for your answer.

Based on an assessment of responses 50% of students indicated they would prefer if lecturers used more cooperative learning methods; the following reasons were given by students for their preference "since the workload is shared, work is usually easier and accomplished faster", "I can achieve more in groups" and "when working with others I tend to understand material a lot more". 50% also indicated that they would not prefer if

lecturers used more cooperative learning methods; the following reasons were given by students for their preference "I do not like group work since people sometimes do not willingly participate as such waste time", "I typically do not perform well within a group since many times people do not pull their weight" and "many times conflict of interest arise due to personality clashes".
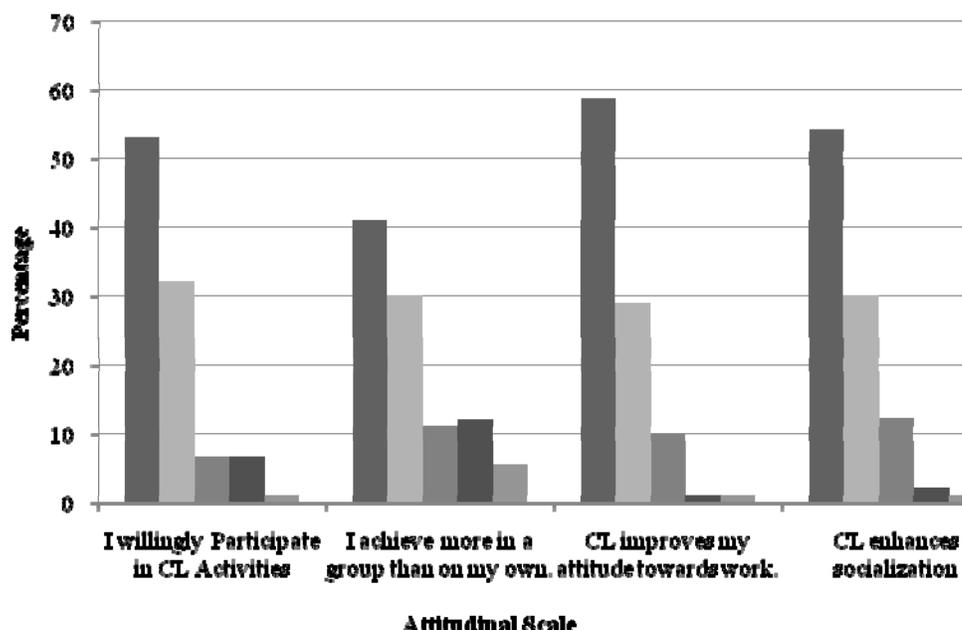
Figure 2: Students' Attitude Towards Cooperative Learning

An examination of Figure 2 reveals that:

1. 53.3% of students strongly agreed that they willingly participate in group activities, 32.2% agreed; 6.7% remained neutral; while 6.7% disagree and 1.1% strongly disagreed.

2. 41.1% strongly agreed that they achieve more within the group than on their own; 30.0% agreed; 11.1% remained neutral; while 12.2% disagree and 5.6% strongly disagreed.

3. 58.9% strongly agreed that cooperative learning improves their attitude to work; 28.9% agreed; 10.0% renewed neutral; while 1.1% disagreed and 1.1% strongly disagreed.

4. 54.4% strongly agreed that cooperative learning enhances socialization, 30.0% agreed; 12.2% remained neutral; while 2.2% disagreed and 1.1% strongly disagreed.

The following section provides a summary of the observations that were made of two (2) classes.

Class A

This was a two-hour class in which students were allotted one hour to prepare for a group presentation the following week. The lecturer reminded the students that they knew beforehand about this activity and were informed to take relevant material to class to finalize the task and ask for assistance if required.

The students broke up into their groups (a total of four (4) groups) which were comprised of four (4) and five (5) members. Some members complained about the absence of group members and of persons who did not take any material with them. One member of the class was heard stating "This is why I never wanted that guy in my group he is always late with his work. I prefer to do the work myself I'm not going to fail because of him." One group in particular seemed to be working well. All members were present and everyone had taken the relevant materials with them to the class. When queried they informed the researcher that they were all friends and enjoyed working together in the group. They further stated that they prefer to choose their own group members themselves.

Class B

   The lecturer used a PowerPoint presentation to give students an overview of the topic. Students were later split into three (3) groups each with three (3) members to complete an inferential statistics worksheet. Each group was to make a presentation at the end of the activity. Some students were not engaged in doing any work. A student was heard saying "This is not going to be graded so I don't have to do it." By the end of the session only one group had completed the task, while the other groups were at different stages of completion. When students were informed by the lecturer that the aspects of the task would be a part of their test the following week, some persons especially those who did not actively participating in the activity were seen scrambling to gain information to complete the assignment.

   The following are responses given by three (3) lecturers during interviews conducted.
Interview Question Item:
Students are thought to be rarely interested in participating in group activities. Is this the case in your classes? If yes, are there any strategies you utilize to combat this attitude?

      All three (3) lecturers stated that whenever there is any form of group activity for students to engage in whether within the class or outside of the classroom, there are some who show great disinterest in participating. One lecturer stated the main way of combating this type of ambivalence is by enabling the students to choose their own group members. This lecturer also stated that when it comes to group presentation the criteria is that all members must be present and must participate.

      Another lecturer noted that in some of her classes she attempts to give students a "pep talk about the value of working within groups such as learning how to resolve

personality clashes." The lecturer also stated that she would give students guidelines on how to resolve the issues that may arise in groups; she also stated that she advises them to inform her about any issues they may have from early in an attempt to resolve it. All lecturers stated that the main concern students have is persons who are frequently absent from group meetings or not completing their assigned task.

Interview Question Item:

It is believed that students are more comfortable with teacher-centred learning strategies. What is the case in your classroom?

All lecturers indicated that students are obviously more comfortable with teacher centred strategies. One lecturer even stated that he himself prefers to just give the students the information, since it is time consuming at times trying to get students to complete tasks on their own. "Many times they do not complete the activity, I have to end up teaching it, so sometimes it's almost why bother." One lecturer indicated that in one of her classes students were overheard saying, "I don't think Miss knows what she's doing; this obviously is for us to just waste time."

Cooperative Learning and Student Participation in class activities

The following section provides a summary of the responses given on the students' and

lecturers' questionnaire items.

Table 8

Students' Views of The Value of Cooperative Learning (CL)

	Strongly Agreed	Agreed	Neutral	Disagreed	Strongly Disagreed	Total
CL enhances creativity (%)	41.1	35.6	13.3	4.4	5.6	100
CL makes learning easier (%)	45.6	40.0	11.1	1.1	2.2	100
CL enhances class participation (%)	53.3	32.2	6.7	6.7	1.1	100
CL enhances good working relationships	37.8	44.4	15.6	1.1	1.1	100

An examination of Table 8 reveals that:

- 41.1% of students strongly agreed and 30.0% agreed that they achieve more

    within the group than on their own;

- 58.9% of students strongly agreed and 28.9% agreed that cooperative learning

    improves their attitude to work and;

- 54.4% of students strongly agreed and 30.0% agreed that cooperative learning

    enhances socialization.

Table 9

Lecturers' Views on Cooperative Learning

	Strongly Agreed	Agreed	Neutral	Disagreed	Strongly Disagree	Total
CL enhances class participation	41.7	25.0	16.7	8.3	8.3	100
CL enhances good working relationships.	50.0	25.0	16.7	8.3	0.0	100
Students who work together achieve more than the work alone.	41.7	33.3	8.3	8.3	8.3	100

An examination of Table 9 reveals that:

- 41.7% of lecturers strongly agreed and 25.0% agreed that enhances class

   participation;

- 50.0% of lecturers strongly agreed and 25.0% agreed that cooperative learning

   enhances good working relationships among students;

- 41.7% of lecturers strongly agreed and 33.3% agreed that students who work

   together achieve more than those who work alone.

The following section gives a summary of the observations made of one (1) lecturer's

class.

Class B

In this particular class a teacher-centred approach was utilized for the first 30

minutes of the class, the remaining hour and a half of the class was devoted to student

activity done in pairs (a total of ten (10) groups). It was observed that during the first 30

minutes of the class, even when the lecturer asked questions in an attempt to get students involved many either didn't know or just didn't want to participate.

During the class activity students seemed more engaged. There was a greater level of involvement with most students actively participating. There was a high level of chatter as students were engaged in lively discussion of the material given. Based on observation at the end of the class activity when given oral quizzes many more students participated. The lecturer even commented on some students who did not usually participate in class doing so during the oral quiz. One student even said "I understand now. Good thing we had this revision class."

The following are responses given by three (3) lecturers during interviews conducted. Interview question Item: Do you notice an increase in student performance when they work in groups?

All lecturers indicated that once some form of group work is used; whether within or outside the classroom is used there is an improvement in student performance. One lecturer stated that "even the weaker students seem to perform a lot better. I sometimes wonder if it is their own work or that of their colleagues only." Another lecturer indicated that "when students are quizzed on the material that they covered during the group activity they do better."

Interview Question Item: Is student participation increased when you incorporate cooperative learning strategies?

All of the lecturers indicated that once they use cooperative learning in their classroom there is a marked increase in student participation.

The following are some statements given by the lecturers.

Lecturer # 1: "When I use group activities within my class, the students participate a lot more than when I utilize a more teacher-centred approach."

Lecturer # 2: "To me it seems they feel more a part of the process not just I am there to teach and all they (students) are there to do is listen and make notes."

Lecture # 3: "In everything you will find those students who wouldn't care less within the class, but overall I see an increase in class participation when I use group type activities."

Interview Question Item: Have you found that cooperative learning makes the teaching-learning experience more dynamic and enjoyable?

Overall the lecturers indicated that the teaching-learning environment is more dynamic. Below are some of their responses.

Lecturer # 1:

"Whenever I come to one particular class with some activity especially after a brief introduction to the topic, I have a very lively class. There are times when other lecturers have to come to tell me that my class is disturbing them. I truly love teaching that class and not only do students enjoy the class, but many of them actually seem to be learning."

Lecturer # 2: "It adds a bit more dynamism to the teaching-learning context. In the past I did not use a lot of these methods, but after recently completing a course of study in which I learnt about these methods, I have attempted to use elements of a more student-centred approach and my students even commented that there is a difference and they enjoy it."

Lecturer # 3: My class room had been one in which I attempted to try new techniques depending on the particular group of students I have. In the past I have had students who enjoyed me just giving information and who actively participated. I've also had students

who rebelled against utilizing more group activities. So for me it depends on the group of

students."

Cooperative Learning at Knox Community College

The following section gives a summary of students and lecturers' questionnaire items.

Table 10

The Extent to Which Cooperative Learning Methods is Used

	Student Response		Lecturer Response	
	Frequency	Percent	Frequency	Percent
Never	0	0.0	0	0.0
Sometimes	68	75.6	12	100
Always	22	24.4	0	0.0
	90	100	12	100

According to Table 10, 75.6% of students indicated that lecturers sometimes

utilized cooperative learning activities. 24.4% of students indicated that lecturers always

used cooperative learning methods, while no participant indicated that lecturers never

used cooperative learning methods. On the other hand lecturers (100%) indicated that

they sometimes utilized cooperative learning strategies.

Student Questionnaire Item: Do lecturers give clear guidelines for the completion of

group activities/assignments whether in/outside of the class setting?

In instances where group activities or assignments are given 57.8% of students

indicate that lecturers usually give guidelines. While 42.2% of students indicated that no

clear guidelines are given. Students indicated they typically had to keep consulting the

lecturer to clarify what is expected or research the material on their own and give their

own interpretation.

The following section gives a summary of interview conducted with three (3) lecturers.

Interview Question Item: When or in what situations do you find cooperative learning most useful?

Lecturers had varied responses to the question posed, as indicated below:

Lecturer # 1: "In my opinion cooperative learning is very useful for teaching practical subjects in which they are usually complex theorems and there are usually many activities to be completed."

Lecturer # 2: "For me cooperative learning can be used for any subject matter."

Lecturer # 3: "To me cooperative learning is best used in the classrooms when the material is not easily understood. Students will learn better from each other."

Interview Question Item: How do you prepare students to work within groups?

Lecturer # 1 and # 2 indicate that they usually just give students guidelines for successful completion of the assignment entails required. Lecturer # 3 indicated that in addition to giving students guidelines, she also gives students skills on how to deal with the inevitable group disputes.

Summary

The major findings of the research are as follows:

1. 77.9% of students prefer to work on their own, however if the work in groups they prefer to work in small groups of four (4) or less persons. Approximately 50% of students stated they willingly participate in groups, achieve more within group than on their own; students also indicated that cooperative learning improves attitude towards work and enhances socialisation.

2. Approximately 45% of students agreed that cooperative learning enhances creativity, makes learning easier, enhances class participation and enhances good working relationship. Approximately 70% of lecturers agreed that cooperative learning enhances class participation and enhances good working relationships among students. Lectures also indicated that students who work together achieve more than those who work alone.

3. 24.4% of students indicate that lectures' always use cooperative learning, while 75.6% of students indicate that lectures use cooperative learning sometimes. 100% of lectures indicate that they use cooperative learning sometimes. Approximately 57% of students indicate that lectures usually give guidelines, while 43% of students indicate that lecturers do not usually give clear guidelines.

Chapter Five

Discussion of Results

Overview

In this chapter the findings of the study will be discussed in relation to the research questions. In an attempt to assess the implications of the results and make conclusions, the discussions will be done against the background of the theoretical framework and review of literature. Based on the discussions and conclusions, recommendations and possible opportunities for further discussion will be made.

Discussions

Students' Attitude Towards Cooperative Learning

Only 50% of the students indicated that they would be more comfortable if lecturers utilized cooperative learning. Students, who indicated that they would not be really comfortable, gave reasons such as fellow students not pulling their weight, conflicts of interest as well as individuals not willing to participate. From an assessment of students' questionnaires 53.3% of students strongly agreed that they willingly participate in group activities, 32.2% agreed; 6.7% remained neutral; 6.7% disagreed and 1.1% strongly disagreed with the statement. It is natural that some students are apprehensive about cooperative learning because of their fear of failure and its perceived limited value.

All three (3) lecturers stated that whenever there is any form of group activity for students to engage in whether within the class or outside of the classroom, there are some who show great disinterest in participating. Even from the class observations students dissatisfaction with this learning style was noted, some students complained about the absence of group members and of persons who did not take any material with them. In particular, one member of the class was heard stating "this is why I never wanted that guy in my group he is always late with his work. I prefer to do the work myself I'm not going to fail because of him." Some of the common fears about working with groups include student fears that each member will not pull their weight as a part of the group; students are also scared that their grade will be lower as a result of the group learning vs. learning they do individually (as cited http://www.gdrc.org/kmgmt/c-learn/methods.html). This fear of failure is also concretized by all three (3) lecturers interviewed who stated that the main concern students have is of persons who are frequently absent from group meetings or not completing their assigned task; that is group members not "pulling their weight".

It can be argued that some students are unsure or apprehensive to take on greater responsibility for their own learning. This brings to the forefront students' concept that learning cannot take place unless the teacher (lecturer) teaches; that is gives them the information. As noted in theory of constructivism learners construct knowledge for themselves (Hein, 1991). This underlines the true essence of cooperative learning, in which students would be taking greater responsibility for their own learning. As may be expected some student would be apprehensive to move away from lecturers being the "the sage on the stage to the guide on the side" (King 1993 as cited at http://learningandteaching.dal.ca/taguide/WhatisCooperativeLearning.htm).

It not unusual for students to be place a low value on cooperative learning techniques, Lake (2001) as cited in Ransdell and Moberly (2003) reports that students see this alternative teaching style (cooperative learning) as unscholarly; rather akin to unstructured group work where one student works diligently, to carry the group, and the others do little or nothing. Many students hold this view of cooperative learning this was brought during the interview in which one lecturer indicated that in one of her classes students were overheard saying "I don't think Miss knows what she's doing; this obviously is for us to just waste time." During the class observation a student was heard saying "this is not going to be graded so I don't have to do it."

On the other hand some students stated reasons for their comfort with cooperative learning such as work is made easier and faster within a group, greater understanding, team player and social skills. These reasons given by students are in keeping with the definition of cooperative learning described by Joliffee (2007) who states that students work in small teams or groups usually for a sustained period of time to improve their own learning and that of others. Two of the key principles of cooperative learning include group processing (team players) and social skills. Therefore, students essentially learn how to be effective group members by learning how to manage conflicts, while at the same time learning how to interact with various personalities. It has been proven in various studies such as Mourtos (1997) who found that overtime students performed better, learnt and integrated much more within their class. The conclusion by Mourtos (1997) is that "students learnt better when working together rather in isolation; there is also an improvement in their social skills since it forces them to practice team and small

group communication skills". From an assessment of the student attitudinal questionnaire it is noted that:

- 41.1% of students strongly agreed and 30.0% agreed that they achieve more within the group than on their own;

- 58.9% of students strongly agreed and 28.9% agreed that cooperative learning improves their attitude to work and;

- 54.4% of students strongly agreed and 30.0% agreed that cooperative learning enhances socialization.

This suggests that the majority of participants may have benefited from cooperative learning activities within their educational environment.Numerous research studies have revealed that students completing cooperative learning group tasks tend to have higher self-esteem and a greater number of positive social skills (Johnson, Johnson, & Holubec 1993; Slavin 1991; Stahl & Van Sickle 1992 as cited in Stahl 1994). In observing students' interactions within classes one group in particular stood out. It was quite evident that all members were working well and each member seemed to be enjoying working in the group. The members of the group indicated they were all friends. Some of the principles of cooperative learning such as positive interdependence in which each member contributes to the learning of the group (Jonhson, Johnson & Smith, 1998), promotive interaction where students promote each other's learning by helping, sharing and encouraging efforts to learn (Roger & Johnson, 1994) and social skills including conflict resolution and proper communication (Johnson, Johnson & Holubec, 1991) were seen to be exhibited within the group. It may be that as Abinkobola (2009) noted cooperative learning promotes positive attitudes toward the instructional experience,

since students interact positively, resolve disputes and encourage the best performance of each group member.

    64.4 % indicated that they would be comfortable if group activities were incorporated in their course of study. It must be noted that even though students would be comfortable if group activities were incorporated in their course of study, 78% of respondents indicated that they prefer to work on their own as they learn better by themselves, and they are more independent. It is therefore obvious that while learning in groups has many advantages, students have a great fear of the disadvantages in regard to their final course grade. This would be of concern to any student, and this is indeed a legitimate concern. It would therefore be crucial for students to be aware of the evaluation techniques that could be utilized to combat their fears of group failure. One lecturer stated that enabling students to choose their own group members has helped to lessen students' apprehension towards group work. This would mean that students would be able to choose other individuals who they are comfortable working with. If two principles of cooperative learning: individual accountability and group processing are followed they could address some of the students' concern about their final grade. Each student is held accountable for completing his or her own work and thus should be given an opportunity to confidentially report on the actions of other group members. Another lecturer noted that in some of her classes she gives students a "pep talk about the value of working within groups such as learning how to resolve personality clashes." The lecturer also stated that she would give students guidelines on how to resolve the issues that may arise in groups; she also stated that she informs them to inform her about any issues they may have from early in an attempt to resolve it. Principles of cooperative learning namely individual

accountability and group processing were tested by Ransdell (2003) who taught students about the concept of cooperative learning prior to them embarking on their assignment and at the end she asked her students to write a short paragraph explaining how his or her group worked together. To encourage this part of the assignment, Ransdell asked her students to suggest an individual grade and to justify their opinions. So if a member of the group failed to complete their assigned task the group would not suffer, just the individual student since everyone received an individual grade. By utilizing these principles a lecturer can help to allay the fears of students.

Cooperative Learning and Student Participation in class activities

Chanchalor & Chomputong (2004) in their study found that more hands on activities such as problem based learning actually increased student participation and encouraged creativity. In examining the responses of participants, there is a significant level of agreement among students regarding creativity enhancement through cooperative learning. While 41.1% of students strongly agreed that cooperative learning enhances creativity, 35.6% agreed which gives a total of 76.7% in agreement. A total of 85.5% of respondents were also of the view that cooperative learning enhances class participation; specifically 53.3% strongly agreed that cooperative learning enhances class participation and 32.2% simply agreed. Lecturers also had a high level of agreement (66.7%) of class participation being enhanced by cooperative learning, while this level of agreement was less than that of students; this seems to prove that cooperative learning enhances class participation. This is further concretised by the three (3) lecturers interviewed who indicated that once they use cooperative learning within their classroom there is a marked

increase in student participation. The following are some statements given by the lecturers.

- "When I use group activities within my class, the students participate a lot more than when I utilize a more teacher-centred approach."

- "To me it seems they feel more a part of the process not just I am there to teach and all they (students) are there to do is listen and make notes."

- "In everything you will find those students who wouldn't care less within the class, but overall I see an increase in class participation when I use group type activities."

Not only is there an increase in student participation within the class, but from the interview lecturers contend that overall the teaching-learning environment is more dynamic. Below are some excerpts of their responses.

- "Whenever I come to one particular class with some activity especially after a brief introduction to the topic, I have a very lively class. I truly love teaching that class and not only do students enjoy the class, but many of them actually seem to be learning."

- "It adds a bit more dynamism to the teaching-learning context. I have attempted to use elements of a more student-centred approach and my students even commented that there is a difference and they enjoy it."

One lecturer in particular noted that "when I plan my lessons depending on the particular group of students I may use a more teacher or learner centred approach". This lecturer indicated that some students have rebelled against the idea of utilizing more group

activities. This again points to some students' apprehension to move away from a more teacher-centred approach.

According to Jolliffe (2007) cooperative learning requires pupils to work together in small groups to support each other to improve their own learning and that of others. This reflects the views of students who indicated that cooperative learning makes learning easier. 45.6% of students strongly agreed that cooperative learning makes learning easier while 40% just agreed. This totals 85.6% of students in agreement that cooperative learning makes learning easier. Based on observation of Class B it was noted that during the first 30 minutes of a teacher centred approach, students were not very engaged even when quizzed by the lecturer. However, when the students were to complete a class activity they seemed more engaged in lively discussion. Even the lecturer commented on the increase in participation noting that even students who did not normally participate in the class were doing so. It is particularly interesting to note that one student even commented "I really enjoyed this class, I have learnt a lot." It must be argued then that cooperative learning indeed would result in greater academic performance. In examining the theoretical basis of cooperative learning the Piagetian perspective on the cognitive developmental theory is important it essentially states that when individuals work together, sociocognitive conflict occurs and creates cognitive disequilibrium that stimulates perspective-taking ability and reasoning ((Johnson et al 1998). It is noted that 75 % of lecturers who responded to the questionnaire agreed that students achieve more than when they work together than when they work alone.

The three (3) lecturers interviewed also indicated that once some form of group work is used; whether within or outside the classroom is used there is an improvement in student

performance. Lecturers gave such statements as "even the weaker students seem to perform a lot better"; "when students are quizzed on the material that they covered during the group activity they do better". These statements seem to give further credence to the notion that students may learn better from their peers as such it may be necessary for lecturers to make attempts to incorporate more team based activities within the classes. It may be that students are able to provide extrinsic motivation to each other which translated to improvements in work ethic. For instance, Felder (1994) in examining the effectiveness of non-traditional instructional methods such as cooperative learning found that students became so accustomed to working in groups that their work ethic translated into improved academic performances in other courses. In an education setting, the social interdependence perspective refers to students' efforts to achieve, develop positive relationships, adjust psychologically and show social competence.

According to Roger & Johnson (1994) positive interdependence among students will result in promotive interaction which occurs when group members encourage and ease each other's efforts to learn. Students essentially explain, discuss, and teach what they know to classmates (Johnson, Johnson & Smith, 1998). Students will therefore work together to achieve a common goal, this should in turn result in positive outcomes such as an improvement in student academic performance. It must be noted that there are many positive outcomes as a result of utilizing this alternative teaching method as noted in numerous research studies which reveal that students completing cooperative learning group tasks tend to have higher academic test scores and greater comprehension of the content and skills they are studying (Johnson, Johnson, &Holubec 1993; Slavin 1991; Stahl & Van Sickle 1992 as cited in Stahl 1994). Kirby (2007) also discovered in her

study of high accounting students that cooperative learning improved student academic performance; enhanced student self esteem and resulted in a more collaborative classroom.

Cooperative Learning at Knox Community College

Are cooperative learning strategies practiced at Knox? A simplistic definition that was given by the three (3) lecturers interviewed was that cooperative learning was students working in small, intimate groups to complete an assigned task. All of the twelve (12) lecturers who responded to the questionnaire indicated that they utilised cooperative learning sometimes to allow students to complete classroom activities as well as coursework assignments; at the same time 24.4% of students indicated that lecturers always use cooperative learning, while 75.6% of students indicate that lecturers use cooperative learning sometimes. One can conclude that students are not fully aware of what cooperative learning is. It is noted that based on the numerous benefits that can accrue from utilising this alternative method in its truest sense can be considered underutilised at Knox. In an era in tertiary education where the idea is for a more student centred approach; lecturers should be utilising strategies such as cooperative learning a lot more. This view is held by Ransdell and Moberly (2003) that cooperative learning is a viable, but underused teaching-learning tool. So here is a major problem, many educators are not aware of what cooperative learning is. Educators can best utilise this teaching strategy in their classrooms more effectively if they themselves were active participants in their teacher education training programme (Ransdell and Moberly, 2003).

Based on the observations it is noted that students were indeed practicing cooperative learning techniques. Within the class setting lecturers allowed students to form their groups to complete a specified activity for that limited time period, at the end of class the group was disbanded. Even with activities that were conducted outside of the classroom it was discovered that individuals were typically within these groups for a few weeks typically three (3) or four (4) weeks and once the assignment was complete the group was dissolved. Therefore although cooperative learning activities are conducted it is usually for a limited time period. There is a clear distinction that has been made between formal and informal cooperative learning strategies (Ransdell and Moberly, 2003). They go on to state that informal strategies are ad hoc groups formed for a short time, but do not exceed the length of one class period. It may or may not include the principles of cooperative learning, while formal cooperative learning strategies last from two class periods to several weeks and include the principles of cooperative learning.

In some of the classes observed, students were ambivalent to the activity that was taking place. In some instances students only became concerned when they were informed that they would be given a test on material from the class activity or if the class activity was to be graded. In one class in particular there were three (3) groups of four (4) students; only about two persons per group were actively engaged in completing the task; while other members of the class simply sat together and had their own conservations. From the literature it is noted that a group of students sitting at the same table doing their own work, but free to talk with each other as they work, is not structured to be a cooperative group, as there is no positive interdependence. Johnson, Johnson, & Holubec 1993 as cited in Stahl (1994) indicate that even if students are working in small groups it

does not mean that they are "cooperating to ensure their own learning and the learning of all others in their group". Even Roger & Johnson (1994) indicate that if a group of students has been assigned to do a report, but only one student does all the work and the others go along for a free ride, it is not a cooperative group. This is also a major concern of students at Knox as it relates to the cooperative group; many students indicate they prefer to work on their own or if in a group complete the task themselves to ensure that they receive a good grade since it is inevitable that work may be left on one person.

The lecturers interviewed indicated that they are aware, but they do not necessarily utilise any particular type of cooperative learning techniques. When asked to name some strategies they utilised they were unable to give specific names, as such it may be that lecturers are not truly utilising cooperative learning techniques, but simply group tasks. It must be noted that based on observation lecturers utilised strategies that had elements of think-pair share and roundtable. It was Stahl (1994) who stated that although cooperative learning is becoming increasing popular, "a large majority of the group tasks that teachers use, even teachers who claim to be using "cooperative learning," continue to be cooperative group tasks-not cooperative learning group tasks". It is noted that the *true* essence of cooperative learning is "academic learning success for each individual and all members of the group, is one feature that separates cooperative learning groups from other group tasks" (Stahl 1994). This therefore means that there must be an accepted common goal and all members must strive to meet that goal in order to enable the success of the group. So if there is not an accepted common goal and if group members are not ensuring the academic success of all then cooperative learning is not taking place. This was quite evident from the observation in which one student stated

that "this is why I never wanted that guy in my group he is always late with his work. I prefer to do the work myself I'm not going to fail because of him." If there is true cooperative learning the student should be attempting to see what are some of the possibly reasons why the fellow classmate is being delinquent and maybe make some effort to assist the classmate instead just being concerned with his or her own grades.

It is noted that at the institution approximately 57% of students indicated that lecturers' usually give guidelines, while 43% of students indicated that lecturers do not usually give clear guidelines. The idea of appropriate guidelines is not just for completing the specific components of an assignment, but also to maintain the right group dynamics which is a key principle of cooperative learning. During the interview two lecturers indicated that they usually just give students guidelines of what is required for successful completion of the assignment, while a third lecturer indicated that in addition to giving students guidelines, she also gives students skills on how to deal with the inevitable group disputes. In order to maintain the group dynamics; groups need specific time to discuss how well they are achieving their goals and maintaining effective working relationships among members (Johnson, Johnson & Holubec (1991); Johnson, Johnson, & Smith (1998). The onus is therefore on the teacher to ensure that there is some structure to the group processing. In this regard the lecturer can provide students with guidelines that will indicate how best the group can achieve the assigned task while ensuring that members have the opportunity to maintain the group dynamics. It therefore is paramount for lectures to assist in this process by informing the group members of ways to make their group successful such as how best they go about assigning group tasks to individual members. It is very important as well for the lecturer to monitor the

group progress which will also help to identify and resolve conflicts that may arise before they escalate.

Conclusions

Based on the findings the following conclusions have been derived:

1. It is clear in spite of the potential benefits of cooperative learning it is not fully accepted by all students at the institution. Due to students fear, apprehension and past experiences many prefer to work on their own rather than within a group.

2. It is evident that whenever students are a part of cooperative learning activities or assignments whether within the classroom or outside there is an improvement in their level of class participation and academic performance. The findings suggest that student believe that cooperative learning facilitates good working relationships, and enhances socialization and creativity.

3. Based on the findings it is evident that a more informal cooperative learning technique is practiced at the institution. It is evident that cooperative learning is an underutilized tool. It is noted that students and lecturers are not fully aware of the various cooperative learning techniques that can be utilized.

Recommendations

Based on the findings of the study and conclusion reached, the following recommendations were made:

1. Students on a whole do not like group work. The major concern many students have is that delinquent group members result in the entire group being at a

disadvantage. Since in its true nature cooperative learning speaks about individual accountability; lecturers could formulate a method in which group members are graded individually and also group members should be able to evaluate each other with appropriate reasons. In this regard there would not be a case in which the whole group suffers for the delinquency of one.

2. Since cooperative learning has been proven to have numerous benefits such as improvement in academic performance and enhanced class participation more emphasis should be placed by the institution on promoting this alternative technique. However, students are known to have various learning styles which should all be facilitated, as such cooperative learning should not be utilized in isolation.

3. In order for educators to utilize cooperative learning within their classrooms they must not only be aware of the technique, they must also be comfortable with utilizing the technique. The institution could conduct seminars to get lecturers more au fait with the technique.

Suggestions for Further Research Study

1. A more detailed study that examines the attitudes of Jamaican students as it relates to competitive and cooperative learning strategies would provide a good baseline for conducting other studies.

2. Experimental approaches could be utilised to assess the effectiveness of implementing particular cooperative learning strategies for various subject areas within the Jamaican context.

3. Studies that seek to determine how cooperative learning can improve students' academic performance in the Jamaican tertiary environment would be very informative.

4. A study aimed at determining ways to lessen students' apprehension of the use of cooperative learning could be undertaken.

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Appendix A

Students' Questionnaire

Instructions: Read the following questions carefully and place a " √" in the box that
corresponds with the answers chosen.

Cooperative Learning can be defined as the collaboration of students working in groups
to achieve as prescribed objective. For example a class of twenty (20) geography students
may be placed in groups to research how globalisation impacts on small developing
countries like Jamaica.

SECTION I:
1. Age:
    □ Under 20   □20 – 25   □ 26 – 30   □ 31 – 35
    □Over 35

2. Gender:
    □Male
    □Female

3. What is your area of study?
    □Part Time Business Studies
    □Full Time Business Studies
    □Part Time Environmental Studies
    □Full Time Environmental Studies
    □ Full Time Management Information Systems

4. To which year group do you belong?
    □1   □2   □ 3   □ 4

SECTION II:

5. Have you ever participated in a group activity/assignment?
   □Yes   □No

6. If yes, where do you usually participate in group activities/assignments?
   □   In class
   □   Outside of class
   □   Both

7. What has been the typical size of your group?
   □ 2 - 4   □ 5 -7   □8 – 10 □other please specify _____

SECTION III

Read the following and indicate your level of agreement or disagreement with the statements.

Questionnaire Key

SA – Strongly Agree
A - Agree
N   - Neutral
D - Disagree
SD - Strongly Disagree

	SA	A	N	D	SD
8. When I work together I achieve more than when I work alone.	□	□	□	□	□
9. I willingly participate in cooperative learning activities.	□	□	□	□	□
10. Cooperative learning can improve my attitude towards work.	□	□	□	□	□
11. Cooperative learning helps me to socialise more.	□	□	□	□	□
12. Cooperative learning enhances good working relationships among students.	□	□	□	□	□
13. Cooperative learning enhances class participation.	□	□	□	□	□
14. Creativity is facilitated in the group setting.	□	□	□	□	□
15. Group activities make the learning experience easier.	□	□	□	□	□

16. Rate the extent to which lecturers use group activities.
    □ Never   □ Sometimes   □Always

SECTION IV

Please read the following items and answer accordingly.

17. Do you prefer working in large (7 or more persons) or small (4 or less persons) groups? Give a reason for your answer.

_____
_____
_____
_____

18. Do you prefer to work on your own rather than in a group? If so Why?

_____
_____
_____
_____

19. Would you prefer if your lecturers used more group activities/assignments? Please give a reason/reasons for your answer.

_____
_____
_____
_____

20. Name the course/courses in which you believe greater learning could be facilitated via group activities.

_____
_____
_____
_____

21. Do lecturers give clear guidelines for the completion of group activities/assignments whether in/outside of the class setting? If yes, do these guidelines enable the task to be clearly understood and completed in the specified time?

_____
_____
_____
_____

22. If no, how are you able to complete your assignments?

_____
_____
_____
_____

23. Would you be more comfortable if more group activities were incorporated in your course of study? Give a reason for your answer.

_____
_____
_____
_____

Appendix B

Lecturer's Questionnaire

Instructions: Read the following questions carefully and place a " √" in the box that
corresponds with the answers chosen.

Cooperative Learning can be defined as the collaboration of students working in groups
to achieve as prescribed objective. For example a class of twenty (20) geography students
may be placed in groups to research how globalisation impacts on small developing
countries like Jamaica.

SECTION I: DEMOGRAPHICS
1. Age:
□21– 25   □ 26 – 30   □ 31 – 35
□Over 35

2. Gender:
□Male
□Female

3. To which department do you belong?
□Business
□Computer
□Environmental Studies
□Social Science
□Natural Science
□Communication

4. How long have you worked at Knox Community College?
□ under 1 year
□1 – 5 years
□6 – 10 years
□11 – 15 years
□15 – 20 years
□over 20 years

SECTION II:

5. How familiar are you with cooperative learning techniques?

_____

_____

_____

_____

6. Rate the extent to which you use group activities.
   □ Never   □ Sometimes   □Always

Read the following and indicate your level of agreement or disagreement with the statements.

Questionnaire Key

SA – Strongly Agree

A - Agree

D - Disagree

SD - Strongly Disagree

	SA	A	D	SD
7. Cooperative learning enhances class participation.	□	□	□	□
8. Cooperative learning enhances good working relationships among students.	□	□	□	□
9. Students who work together achieve more than when they work alone.	□	□	□	□

10. Name the course/courses in which you believe greater learning could be facilitated via group activities.

_____

_____

_____

_____

Appendix C

Lecturers' Interview Schedule

1. Students are thought to be rarely interested in participating in group activities. Is this the case in your classes?

2. If yes, are there any strategies you utilise to combat this attitude?

3. Do you notice an increase in student performance when they work in groups?

4. Is student participation increased when you incorporate cooperative learning strategies?

5. It is believed that students are more comfortable with teacher-centred learning strategies. What is the case in your classroom?

6. What are the cooperative learning strategies you utilise within your classroom?

7. Have you found that cooperative learning makes the teaching-learning experience more dynamic and enjoyable?

8. When/ in what situations do you find cooperative learning most useful?

9. How do you prepare students for working in groups?

Appendix D

Cover Letter

Lot 37 Georges Pen,

Osborne Store P.O.

Clarendon.

February 11, 2009

Dear Participant,

I am conducting a study during the month s of July and August 2009 to evaluate the views of students towards cooperative learning at Knox Community College.

The knowledge gained from this study will assist the administration of the institution to enact policy to guide the teaching strategies to be utilised the classroom.

I would greatly appreciate your taking the time to complete this questionnaire. You are to free to discontinue at any time you so desire. No personal details such as your name, address or telephone number are required as such this undertaking will be strictly confidential.

Please read and sign the informed consent form prior to completing the questionnaire.

Thank you for your cooperation.

_____

Keritha Mcleish
Researcher

Telephone #: 849-1923
Email: keritham@yahoo.com

Appendix E

Informed Consent Form

Project Title: The Attitude of Students Towards Cooperative Learning at Knox
Community   College

Researcher: Keritha McLeish
               Knox Community College

Phone: 849-1923
Email: keritham@yahoo.com

The information provided on this form and the accompanying cover letter is presented to
you in order to fulfil the legal and ethical requirements for research studies at the
University of Technology Jamaica (UTECH).

The purpose of this form is to investigate the views of students towards cooperative
learning. The knowledge gained from this study will assist the researcher to gain a better
understanding of students' views and it may also guide the administration in policy
decisions.

1. Participation is voluntary. Refusal to participate or withdrawal from the study will
   present no penalty to the participant.
2. There is no risk to persons who participate in this study and confidentiality will be
   protected by not using the participants' identity. Code numbers will be used when
   analyzing the questionnaire. Your comments will be entered to compute the views
   expressed without any identifying information.
3. You may ask the researcher any questions about this study whether by phone or
   email.
4. Your signature on this consent form shows that you have been informed about the
   conditions and safe guards of this project.

_____   _____
Signature of Researcher   Date
- -

I have read the information provided and I agree to participate in this study

_____   _____
Signature of Participant   Date

Appendix F

Permission Letter

Lot 37 Georges Pen,

Osborne Store P.O.

Clarendon.

February 11, 2009

Mr. Caswell McLeish

Principal

Knox Community College

P.O. Box 52 Spalding

Clarendon

Dear Sir,

I ask for permission to conduct a study on the May Pen campus. This study will attempt to assess the views of students as it relates to cooperative learning. The study is in partial fulfilment of the requirements for the Post Graduate Diploma in Education at the University of Technology.

Thank you.

Yours sincerely,

_____

Keritha McLeish

Appendix G

Activity and Timeframe

The schedule of activities conducted is outlined in Table 11 below.

Table 11

Activity and Timeframe

Activity	Timeframe
Proposal	June 19, 2009
Review of Literature	Ongoing
Pilot Testing of Instruments	June 22-24, 2009
Revision of Instruments	June 26, 2009
Main Study	July 2009
Further Review of Literature	June 30- July7, 2009
Data Analysis	August 3-6, 2009
Revision of Chapters 1, 2 and 3	August 7-10,2009
First Draft of Chapters 4 and 5	August 11- 14, 2009
Submission of Chapter 4 and 5	August 17, 2009
Final Copy	August 25, 2009
Submission of Research Paper	September 1, 2009

Appendix H

Budget

The budget for the study is outlined in Table 12 below.

Table 12

Research Budget

	Months			
Item	June	July	August	Total
Travel Cost	$1, 500	$2, 500	$2,500	$6,500
Instrument Design	$2,000	-	-	$2,000
Printing Ink	$ 3,500	-	$2,500	$6,000
Copying	$500	$500	$500	$1,500
Data Collection	_	$500	$500	$1,000
Data Analysis	_	_	$1,500	$1,500
Binding			$2,500	$2,500
Other Budget Costs	$1,500	$1,500	$1,500	$4,500
Total	$9,000	$5,000	$11,500	$25, 500