International Journal of Theoretical and Applied Mathematics
2020; 6(6): 105-108
http://www.sciencepublishinggroup.com/j/ijtam
doi: 10.11648/j.ijtam.20200606.13
ISSN: 2575-5072 (Print); ISSN: 2575-5080 (Online)

Methodology Article

Student's Attitudes Towards Cooperative Learning in Case of Second Year Civil Engineering, Arba Minch University

Kedir Nebi Habib

Department of Mathematics, College of Natural Science, Arba Minch University, Arba Minch, Ethiopia

Email address:
kedirnebi@gmail.com

To cite this article:
Kedir Nebi Habib. Student's Attitudes Towards Cooperative Learning in Case of Second Year Civil Engineering, Arba Minch University. *International Journal of Theoretical and Applied Mathematics*. Vol. 6, No. 6, 2020, pp. 105-108. doi: 10.11648/j.ijtam.20200606.13

Received: October 26, 2020; **Accepted**: MNovember 9, 2020; **Published**: December 31, 2020

Abstract: Education is considered as a vehicle for national, social and economic development. Developmental goals may not be achieved unless appropriate educational policies are carefully planned**.** Cooperative learning is a teaching approach in which students work cooperatively in small teams with individuals of different talents, abilities and background to complete a common goal. This study was set out to examine the views about cooperative learning in domain of group work of second year civil engineering students of Arba Minch University, Ethiopia. Analysis of the data yielded that student was favorable to do work on group work along with associated cooperative learning methods. The results of this study suggest that students could be developing different attitudes toward teamwork from their educational experiences. The challenge for University educators is to develop skills to facilitate positive teamwork experience among their students who will need to interact with each other in transnational teams in the workplace of the future.

Keywords: Cooperative Learning, Small Team, Active Learning, Quality of Education

1. Introduction

1.1. Back Ground of the Study

Education is considered as a vehicle for national, social and economic development. Developmental goals may not be achieved unless appropriate educational policies are carefully planned. Quality teaching and learning has taken center stage in the on-going educational reforms in higher institutions as promoting learning has become a major issue of concern to the 21st century university [12]. Cooperative learning has been shown to be effective in improving the quality of learning [13].

In our country, to improve the relevance of education, new curriculum was designed and put into implementation. According to Abyi, Ethiopian schools of different levels have stimulated a fixed cooperative learning structure [1]. The 'cooperative learning' structure comprising the students, one of whom is the best achiever and the leader of the group. The leader continues his/her leadership unless anyone of the group members outsmarts him/ her in semester examinations. The rest of the group members are mixed ability students and gender representative. The cooperative learning structure is a one and permanent organization in which students who belong to a group collaboratively perform tasks of different subjects both in class and outside.

1.2. Statement of the Prsoblem

The study conducted by the Ministry of Education has revealed that the problems related to the education system in Ethiopia had been and it still suffering from poor quality; insufficient resource, poor educational infrastructure and lack of relevance of curriculum MOE [11]. According to Azeb, in most cases in Ethiopia lecture is often the instructional tool of choice forcing students to take notes and to listen carefully and the main reason why teachers use this traditional chalk and talk technique is that they were trained in this fashion [2]. Lecture method is a traditional way of teaching where students become passive whereas teachers play majority of the role. Because of this, the government of Ethiopia introduced active learning as means to enhance quality teaching learning processes and increase student involvement. Recently the government has implemented the concept of cooperative Learning as second room for student to be engaged in teaching

learning process.

This study is about the means and practices of assuring quality of education in Arba Minch University (AMU) of Ethiopia in case of second year cvil engineering students. The reason for undertaking Action Research research in this area is that development and implementation of quality assurance in higher education is one of the areas of ongoing debate. This action research is the first attempt in terms of its focus on the attitude of student about cooperative learning as a means of quality assurance systems and the extent it is practiced at civil department at Arba Minch University for second year students

Theoretically, this study is believed to bridge the research gap in the area of quality assurance in higher education in the context of a developing country. First, the findings of the study can be used to develop theoretical framework and/or model for building cooperative learning as quality assurance systems that fit to the context of civil engineering students, Arba Minch University. One of the researchers' rationales to conduct the study is that almost all instructors and students accept or confess during the deep renewal conference at university level that they did not implement cooporororative learning properly. Since the researcher is instructor in AMU, He made assessment and observed that some student consider it as simply time killing process.

All the above reviews and discussions clearly disclose there is a gap between theory and practice in the implementation of participatory, cooperative learning approach. Therefore, it is important to assess the attitude of students faced in the implementation of this cooperative learning approach in Arba Minch University for second year civil engineering students as one means to enhance quality of education in our University.

The questions here to be answered are:

a. What is the concept of practicing of cooperative learning?
b. What is the attitude of students of civil engineering towards cooperative learning?

1.3. Objectives of the Study

a. To investigate the practice of cooperative learning which is another room for enhancing quality of education
b. To Investigate the civil engineering student Views on cooperative learning

1.4. Research Design

The design of this study is quantitative which employs a survey questionnaire approach to get information on cooperative learning which was filled by students. This approach can be defined most simply as a means of gathering information, usually through self-report using questionnaires or interviews surveys are more commonly considered the medium used for data collection Weigold, A., Weigold, I. K., & Russell, E. J. [17]. The word survey is often used to describe a method of gathering information from a sample of units in the population that is to be studied Jarvis, P. [15].

1.5. Sampling Method

The groups of students used in this study were civil engineering second year students of Arba Minch University. The numbers of students in this group were 22 and all students were taken by the researchers as sample of the study. The questionnaire was the instrument used. It is required to find out the cooperative learning methods predominantly used in class, the cooperative learning methods preferred by students.

1.6. Data Collection Methods

A questionnaire was designed to investigate the attitude of students towards cooperative learning. The items focus on the successful implementation of cooperative learning techniques in domain of group works and projects. The data collected using different methods were analyzed according to the way they collected. The data analysis has done with quantitative method, like number and percentage Jansen, Harrie [16]. Thus the field based data of 22 respondents of the sample was collected in January 2020.

2. Review Literature

Cooperative learning is the structured, systematic instructional technique in which small groups work together to achieve a common goal [18]. Cooperative learning strategies employ many of the following characteristics and strategies in the classroom: positive interdependence, face-to-face interaction, individual accountability, social skills, and group processing. Positive interdependence is the belief that students are linked together with other students in such a way that one cannot succeed unless the group members also succeed. Face-to-face interaction is the expectation that students will explain to each other how to solve problems and individual accountability is a requirement of students to complete their share of the work. Individual accountability can become problematic for educators when and if a portion of the students are not participating actively in the cooperative learning strategy. Social skills are also needed to accomplish mutual goals; students must know and trust each other, communicate effectively, support and encourage each other [19].

In terms of effective social skills and cooperative learning strategies, students need to be properly instructed as how to communicate effectively within a group setting. Educators must monitor the communication dynamics within each group. Group processing enables group members to reflect on a group session to describe what actions of the group members are helpful and not helpful [19]. Cooperative learning allows students to build more positive relationships with their classmates, and helps develop social skills and competencies [9].

According to Johnson, Johnson & Holubec, cooperative learning is relatively ignored and underutilized by teachers [9]. As stated, it was observed that there are many binary tensions among individual learners in cooperative problem solving sessions [14]. Therefore, Sheehy recommended that it is important for teachers and educators to understand the issues and tensions emerging from cooperative learning before trying to implement it in their own classrooms.

The proven benefits of cooperative learning notwithstanding, instructors who attempt it frequently encounter resistance and

sometimes open hostility from the students. Bright students complain about being held back by their slower teammates; weak or unassertive students complain about being discounted or ignored in group sessions; and resentments build when some team members fail to pull their weight. Placing students in groups and expecting them to work together will not necessarily promote cooperation. Group members often fight with what to do and disharmony can arise as members deal with the demands of the duty as well as handling the processes involved in learning such as dealing with contradictory opinions among members or with students who basically laze and contribute little to the group's goal [8].

The finding of the study by Kedir revealed that cooperative learning is important to improve the academic achievement and social skills of students [10]. However, cooperative learning practice is not effective in the study area he used due to lack of awareness, lack of motivation, shortage of instructional materials, resistant and lack of clear guidelines which are some of the major challenges hindered cooperative learning practices.

It is known that cooperative learning has been applied widely in Ethiopian Higher Education Institutes (EHEI). However, the program has not been real to the anticipated degree as the researchers observed during literature assessment Ethiopian Universities in general and in Arba Minch University in particular. Further, as stated in the study of Efrem and Oukula, the following two problems regarding cooperative learning have been observed [5]. One thing students perceive that cooperative learning is a means of increasing marks for weak students and discourages brilliant students.

3. Analysis and Discussion

The percentage of the responses collected and well presented in the form of table both quantitative and qualitative analysis of the responses focused together. The sample population was based on disciplines 22 of second year civil engineering. The characteristics of respondent were that all are students of Arba Minch University and have experiences of cooperative work.

Table 1. *Responses of Students*

S N_ O	Item of questioners	Strongly agree		Agree		Neutral		Disagree		Strongly Disagree	
		N_O	%	N_O	%	N_O	%	N_O	%	N_O	%
1	Commitment to success of group	7	19.5	25	69.5	0	0	3	8.25	1	2.75
2	Responsibility for success of each Member	8	22	12	33	10	28	4	11.3	6	5.7
3	Monitoring of teachers	7	19.2	13	35.8	6	17	7		10	28
4	Groups are structured	8	22	12	33	14	38	2	7	0	0
5	Clarity of purpose	5	13.8	25	69.2	2	5	2	6	2	6
6	Sufficient time for completion	8	22.3	24	66.7	2	5	1	3	1	3
7	Commitment to other members	7	16.4	23	63.6	4	11	2	6	0	0
8	Responsibility of work	10	27.7	20	55.3	6	17	0	0	0	0
9	Enhanced learning and socialization	10	27.7	12	33.3	12	33	1	3	1	3
10	Tasks interestingly done	34	94	25		0	0	2	6	0	0
11	Better then individual work	26	24	17	48	8	22	1	3	1	3
12	Satisfaction	5	12	19	60	8	22.5	1	.3	1	3
13	Some members become irresponsible	3	8.4	11	30.6	16	44	4	11.3	2	5.7
14	Want to do individual work than group	4	11	8	22	10	28	10	22.8	4	11.2

The Action research was designed to explore cooperative learning as effective teaching approach as per views of student of second year civil engineering students groups. Majority of the students confessed that the cooperative learning is an effective approach. they were committed to success of group, both take responsibility for success of each group member, they agree that teacher monitor their groups, groups are structured for work and leaning, the purpose of the task are clear to all, they expressed that they found sufficient time to complete the task, they have favorable responses towards commitment to other group members, they agree that students take responsibility of work, cooperative learning enhanced their learning and socialization, they interestingly complete their tasks, they learn better than individual learning and they feel satisfaction in cooperative learning.

4. Conclusions

The students were satisfied with the planning and monitoring process used in cooperative learning. They felt that it was adaptable for normal classroom teaching. Students believed that group tasks clear their concepts more than individual learning. It also makes learning interesting, it provides fun, done in satisfactory situation and their socialization enhance. Students also expressed that during the assigned work, they felt responsibility of work, committed to success of each member and their group.

5. Recommendations

Based on findings of the study, the researcher recommends: Teacher should continuously monitor the work of not only the group but also the individual members. And identify those students who try to become irresponsible from the task. Teacher should use cooperative learning approach side by side with individual learning approach. There is need to structurally plan for cooperative learning approach. It is recommended to use this approach for the subjects like civil engineering because cooperative learning provides ideas from different members and the concepts being easily clear in cooperative learning.

References

[1] Abyi Ygzaw (2015), Students' *Perception and Practice of Writing through Peer-led Learning at Bahridar University*, star Journal of Wollega University, Vol 4 (1): P 197-202.

[2] Azeb Desta(1998), *The self-contained classroom: Quality Education in Ethiopia,* Addis Ababa University.

[3] Borg. W. R and Gall, M. D. (1996), *Educational research (6th ed.),* White Plains, NY: Longman.

[4] Brown. A. J. and Dowling.

[5] P. C. (1998), *Doing Research/Reading Research: A Mode of Interrogation for Education*. London, Falmer Press.

[6] Efrem Gulfo and Oukula Obsa (2015), *Students towards One-to-Five Peer Learning: A New Approach for Enhancing Education Quality in Wolaita Sodo University*, *Ethiopia,* Journal of Education and Practice, Vol 6, P1722-1735.

[7] Gay. L. R. and P. Airasian (2000), *Windows statistics to accompany Educational research: Competencies for analysis and application* (6th Ed.). Upper Saddle River, NJ: Prentice-Hall.

[8] Johnson, D. W., Johnson, R. T., & Holubec, E. J. (1991). *Cooperation in the classroom.* Eden, MN: Interaction.

[9] Johnson, D., & Johnson, R. (1990), Cooperative learning and achievement New York: Praeger.

[10] Johnson. D. W., Johnson, R. T., & Holubec, E. J. (1994), *The nuts and bolts of cooperative learning*. Edina, MN: Interaction Book Company.

[11] Kedir. M. H (2012), *Cooperative Learning Practices in College of Education and Behavioral Sciences in Haramaya University*, International Journal of Science and Research (IJSR), Vol 3, P 2319-7064.

[12] Ministry of Education of Ethiopia (2004), *TESO Pre service committee a National curriculum guideline for pre-servise Teachers Education Program*, Addis Ababa.

[13] Schleicher, A. (2011), *Building a high-quality teaching profession: Lessons from around the world*. Paris, France: Organization for Economic Cooperation and Development (OECD).

[14] Sharan, Y. (2010a), *Cooperative learning for academic and social gains: Valued pedagogy, problematic .practice.* European Journal of Education, Vol 45 (2), P 300-313

[15] Sheehy. L. A. (2004), *Using Student Voice to Deconstruct Cooperative, Mathematical Problem Solving*. A Dissertation Submitted to the Graduate School of The University of Georgia.

[16] Jarvis, P. (1995). "Adults and Continuing Education. Theory and Practice" Stanford Educational Press, Waterloo, Canada

[17] Jansen, Harrie. "The logic of qualitative survey research and its position in the field of social research methods." Forum Qualitative Sozialforschung/Forum: Qualitative Social Research. Vol. 11. No. 2. 2010.

[18] Weigold, A., Weigold, I. K., & Russell, E. J. (2013). Examination of the equivalence of self-report survey-based paper-and-pencil and internet data collection methods. Psychological methods, 18 (1), 53.