

Using a Cooperative Learning Strategy to Increase Undergraduate Students' Engagement and Performance: Bahir Dar University Psychology Graduating Students in Focus

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Abstract

In the 21st century, preparing university students for real work and lifelong learning requires instructors to serve as facilitators of learning rather than as providers of information. Instruction needs to be learner-centered, active, enjoyable and engaging. As one form of active learning strategy, cooperative learning (e.g. group assignment) helps students to collaborate in the task actively and this in turn improves their learning engagement and performance. However, in my undergraduate course, when I encourage students to do assignments in groups, many of them do not take it seriously and are not committed, the final product being poor in terms of quality and participation. The objective of this action research was to improve the educational value of group assignment as one form of cooperative learning strategy by way of designing the task thoughtfully, following up and motivating students, providing constructive and timely feedback and ensuring greater engagement of students in the task. Third year psychology students volunteered to participate in the project. Phase I and Phase II (preliminary and actual action implementation make up the action research project). The outcomes of the preliminary and actual action implementation were then compared. The findings revealed that as a result of the intervention, students developed positive attitudes towards group assignment and they were more engaged in the second assignment as compared to the first ($t= 6.51, p= 0.05$). Students' performances in the second test and group project was also improved ($t= 2.80, p=0.05$ and $t=7.67, p=0.05$ respectively). Based on the findings, implications for further research and action are suggested.

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Introduction

Cooperative learning is the instructional use of small groups so that students work together to maximize their own and each other's learning (Johnson & Johnson, 2002; Slavin, 2014). Despite the limitations in implementation, this approach is practiced as one form of active learning strategy in tertiary education of Ethiopia (Tefera & Robyn, 2015).

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Meta-analysis studies of the cooperative learning literature reveals that this approach has positive effects on students' learning and performance as well as on their social skills. Analysis of 164 studies comparing cooperative learning to competitive and individualistic learning among college students showed that cooperative learning led to an increase in students' academic achievement and the approach also brought improvements in both attitude and self-esteem (Johnson et al., 2006). Another review of 39 studies comparing STEM classrooms that used small-group activities indicated that students who participated in group activities had greater academic achievement and increased persistence through STEM courses (Springer et al., 1999).

Group assignment/project is one of the cooperative learning strategies advocated by university management across the world. It is believed that this method improves students' social skills and learning. Group assignment helps students develop skills such as organization, delegation, cooperation and leadership. The fundamental assumption in group assignment is that students' collaboration substantially enhances their learning. Group assignment fosters greater understanding of the task or content given by the instructor (Fall, Webb & Chudowski, 2000). Students involved in effective group assignments develop higher order thinking skills (Cohen, 1994) and better communication and conflict management skills (Johnson & Johnson, 1996). Group assignment also helps to develop skills transferable to the work environment such as teamwork, time management and interpersonal skills (Clarke, Pearce & Gannaway, 2004).

Stahl (2006) notes that while students work in groups, collaboration brings them many benefits to the knowledge building process. Joint efforts to complete a learning task encourages them to discuss the issue in hand from various viewpoints, to activate and share relevant knowledge about the issue, to generate ideas on how to solve the problem, and to search for and negotiate the use of information sources. Through constant discussion and interaction, students gain insights that would be difficult for them to achieve on their own.

Consistent with prior evidence on the effectiveness of cooperative learning (e.g. group assignment), recent studies (Gillies, 2016; Johnson, Johnson, Roseth & Shin, 2014; Slavin, 2014; Sormunen, Tanni, Alamettälä & Heinström, 2014; Tsay, & Brady, 2010) support the view that a well-structured cooperative learning strategy produces more positive outcomes among students. Learners treat each other as resources and they go beyond superficial engagement with learning materials. Cooperative learning provides the social context for students to actively learn and make deeper connections among facts, concepts and ideas.

Although there is adequate theoretical and empirical evidence supporting the advantages of cooperative learning in the teaching and learning process, the same evidence shows that if it is not properly implemented, this method has also been judged as problematic by both teachers and students. Challenges identified in relation to cooperative learning include: "free riders," leaving all or most of the work to others; conflict between group members (Brokaw & Rudd, 2002); time management and organizational challenges (Morris & Hayes, 1997), a mechanism used by teachers to reduce their workload and awarding equal grades to all members of the group regardless of contribution (Ford & Morice, 2003).

As a pedagogical approach, although cooperative learning has been practiced at Bahir Dar University for long, the formal peer-led group has been recommended for undergraduate students in the university recently (Chalachew & Andargachew, 2007; Tefera & Robyn, 2015). In the peer-led group formation at Bahir Dar University, five to eight students of different abilities are assigned to work together and the academically better student is assigned to be the leader of the group. Mentors are assigned to each cohort of students so as to facilitate their engagement in the cooperative learning tasks which are given by course instructors.

Despite the multidimensional benefits of group assignment to students' learning, many instructors and students in the university often complain about cooperative learning. An instructor, for instance, expressed his dissatisfaction with group assignment saying: "It is really painful and discouraging to grade assignment papers done in 'groups' when one knows that the written assignments are not the students' own work" (Personal Journal, December 23, 2018). Conflict between group members, the problem of free riders and unfair grading are also some of the challenges mentioned by students in connection with group assignment (Chalachew & Andargachew, 2007).

This being the case, except the project by Chalachew and Andargachew (2007), the researcher could not find intervention studies at BDU which attempted to minimize problems related to group assignment. In this action research, I present my experience of designing group assignment as one form of cooperative learning strategy with the aim of improving its educational value. It is argued that by ensuring student ownership, proper task design and careful follow and monitoring, the efficacy of group assignment can be improved (Gillies, 2016).

Methods

Research Design

This study is predicated on an action research model. As an action research project, the study emphasized identifying the problem, planning a solution/action, implementing the action, monitoring and evaluating its effectiveness and reflection (McNiff, 2002). It is argued that by utilizing action research, teachers not only learn about how to improve their students' learning, but they also learn about themselves as they seek ways to continually improve (Chuaprapaisilp, 1997; Johnson & Button, 2000; O'Connor, Greene & Anderson, 2006; Tripp, 2005). In Johnson and Button's (2000) study, for instance, teachers noticed the links between their own learning and the learning of their students, affirming that the principles of good learning that they used applied to their own classrooms. In the present action research project, the author acted as a facilitator of the intervention. Students were active partners by involving in the intervention who, in turn, engaged in the group tasks to improve their own learning. Reflection was made before, during and after the action implementation. Before the intervention, I held discussion with my students about group assignment. From the discussion, I learned that problems related to the effectiveness of group assignment were a shared concern.

Following the preliminary reflection, students were given the first group assignment and I used the conventional approach of monitoring the project. This phase served as a baseline data. Based on the data obtained from the first reflection and the preliminary action, the actual intervention was then planned and implemented. Evidence for the project was gathered using a mixed methods approach (QUAN + qual) which is a concurrent type of data collection (Creswell, 2014). Much of the data collected were quantitative. After the actual intervention, changes as a result of the actual action implementation were documented.

Participants and Sampling Technique

Undergraduate psychology students, who were prospective graduates at Bahir Dar University in 2019, were the participants of the action research. There were 38 students in this cohort and they took the course 'Introduction to Guidance and Counseling' in the first semester of the academic year (i.e., in 2018). Census technique was employed and all students voluntarily participated in the project. The institutionalized group formation (peer-led group) was used. Students were assigned into five peer-led groups, each having eight members except one which had six.

Instruments of Data Collection

Observation

Observation was used to collect data about students' readiness and confidence in presenting their group's work. This was done both in the first and second phases of the action research project. Criteria to observe students included readiness, confidence, understanding of content and coherence of idea while presenting.

Focus group interview

Focus group interview was held with each peer-led group after the first and second phases of action implementation. This was undertaken to understand students' reflection on the extent of their engagement in the group assignment. In the second phase, students were requested to reflect their experience by comparing with the first phase.

Interview

Interview was held with the randomly selected presenters of each group. This was designed to know how they felt when they were asked to present the group's work, their readiness, confidence, understanding of content and also to what extent they were involved in the group task. This was carried out both in the first and second phases of the project.

Test

Restricted essay questions (six questions) were prepared from the group assignment both in Phases I and II and all students took the test. The test in both phases was scored out of 10%. Weight of each item was determined by depth and broadness of the content.

Checklist

A checklist having five items of involvement or engagement and which measures the level of engagement in the assignment (adopted from Chalachew & Andargachew, 2007) was presented to each student. Students were asked to rate their extent of involvement during the first and second assignments on a rating scale ranging from high to low.

Whole Class Discussion

At the end of Phase II action implementation, whole class discussion was held with the students. This was scheduled to understand their experiences and reflections about Phases I and II group assignments. It was an important event which gave students the chance to reflect on their overall perception on the intervention.

Data Collection Procedure

In this action research project, two phase actions were carried out so as to examine the effectiveness of group assignment in improving students' engagement and performance. Before the first or preliminary action implementation, I introduced the course. The course 'Introduction to Guidance and Counseling' was delivered in a block modality and eight weeks were allocated for it. In the first two weeks, I distributed the course handbook and discussed the objectives, content, essential concepts, importance and functions of guidance and counseling. Following the two weeks' discussion, as it is conventionally done, assignments were distributed to each peer-led group without carrying out a thorough discussion on why and how they needed to do the assignment. Deadline for submission was communicated. After two weeks, students submitted their assignments. On the same day, one student was randomly nominated from each peer-led group and these selected students were asked to present their group's work. After the presentation, interviews were held with each peer-led group about the problems and experiences they had while doing the assignments. Some of the issues for interview were problems related to group assignment, each student's involvement in the group assignment, each member's readiness to present the group's work and personal problems experienced while doing the assignments. The randomly nominated students were also interviewed about their readiness and confidence in presenting their group's work. After the interviews (the same day), questions were prepared from the group assignments and a written test was administered.

The second phase action was implemented based on the lessons learned from the first phase, my personal experience as an action researcher and instructor, interview with other groups

of students and discussion with selected instructors. Factors associated with student engagement and performance in group assignment were numerous. Among other things, these included instructor's commitments, the nature of the task set for group work, students' conception of the purpose and benefit of doing the task, the content to be learnt, ease of allocation of the task into sub-themes, achievability of the task, and the free rider problem. In general, the limitations while employing group assignment were given special attention.

As part of the second (actual) intervention, I made a thorough discussion with my students regarding group assignment. Students' assessment directive of BDU stipulates that group assignment should be a compulsory part of learning and assessment (Bahir Dar University, 2020). As a compulsory pedagogical strategy, students need to benefit out of it. We discussed exhaustively the relevance of working collaboratively. Students noted that one of the reasons why they did not take ownership of group assignments was because instructors were not serious about it. Further, instructors were not committed to monitoring the assignments and as a result students in turn did not take the task seriously.

Synthesizing the lessons from reflection and experience, students were convinced to be active partners in the action research project. I gave feedback to each peer-led group on the first assignment. The benefit of group assignment to the students was further stressed. The discussion included the importance of group assignment, the need for each member's active engagement and rotating roles while doing the tasks. Individual student's responsibility for the task given which would be considered in role allocation and the importance of self- and group assessment while doing the task were discussed. The importance of submitting a progress report to the instructor while doing the assignment, how they could effectively handle their group tasks within the given time, and how their participation in the group work would be assessed and given value were also addressed and agreed upon.

The in-depth discussion with students regarding cooperative learning, in particular group assignments, and their role as active partners in the action research project were emphasized to create a positive attitude and motivation so that they could actively participate in the group assignments. After the discussion, the second assignment tasks were distributed and agreement was reached with each peer-led group to report their progress every four days. Continuous feedback was given by the author to each group while they presented their progress report. Finally, after two weeks, students submitted their completed assignments. A similar procedure was used as in Phase I to check students' engagement in the second assignment. On the submission date, the students who presented in Phase I from each peer-led group were again encouraged to present their group's work. A test was also administered. After students' presentation and administering the test, interviews were held with the presenters from each peer-led group about their experiences in doing the assignment in Phase II. A whole class discussion was finally held at the end of the project.

Data Analysis

Data collected from observation, focus group, in-depth interview and the instructor's and students' reflections were analyzed qualitatively. Quantitative data gathered through checklist and tests were analyzed using descriptive and inferential statistics. Means, percentages and t-test were used for the purpose.

Ethical Considerations

As the aim of this study was to improve students' engagement and performance in group assignment, the target group joined the research project as partners not as passive participants. The purpose of the study was discussed in detail and they were informed that participation was voluntary and that if they were not comfortable, they could withdraw from the project at any point in the intervention process. After the discussion, oral consent of the class was obtained.

Results

The aim of this action research was to improve the educational value of group assignments as one form of cooperative learning strategy. The participants were active partners in the action research project being committed to their assigned tasks with the facilitation and active support of the instructor. Two phases were used to complete the action research project.

In the first phase, as it is conventionally done, the group assignments were given to the students without proper task design, follow up and support. Students were not active partners and did not take ownership of the task. The importance of group assignments, the need for each member's active involvement and rotating roles while doing the tasks were not discussed. Individual student's responsibility for the task given and the importance of self- and group assessment while doing the task were not focused. The importance of submitting a progress report to the instructor while doing the assignment was not given attention and how students could effectively handle their group tasks within the given time was not discussed. Students were not also informed how their participation in the group work would be assessed and graded. The first phase served as a baseline data representing the conventional approach of implementing group assignments.

In the second phase, as illustrated in the method section, all problems observed and lessons learned while using group assignments were taken into account and beginning from effective task design, students were encouraged to be active partners in the action research project. The author facilitated the project by supporting them with proper follow up. Before communicating the task to each cooperative learning group, we had discussion about group assignment. Among other issues, the discussion focused on specific cognitive and metacognitive strategies to facilitate discussion, thinking and learning. They were motivated to actively engage in the task. Students were then informed about the tasks and an agreement was reached with each peer-led group to report their progress every four days. Continuous feedback was given to each group by the author

while they presented their progress reports. Students were also coached continuously and they were encouraged to raise any concern while doing their tasks. Finally, after two weeks, they submitted their final group assignments. A similar procedure was used as in Phase I to examine students' engagement and performance in the second group project. The changes as a result of the actual action implementation were then documented.

1. Improvements in Students' Engagement in the Group Task

Data obtained from observation and interview indicated that during Phase I a number of problems were observed among students. The randomly selected presenters were timid, less confident and presented written reports that were incoherent and of poor quality, and in some cases the recruited presenters were unable to speak at all. When students were asked to present, they said they were not prepared. In the interview, they were asked to explain why they were not able to present their own work. The students explained that they had already pre-selected group presenters. Further probing interviews indicated that most members had very low involvement in the group assignment partly because the purposes of doing the assignments were not clear enough to them, and they thought that the assignments would not be taken seriously on the part of the instructor.

During the actual action implementation, lots of improvements were noted. For the purpose of minimizing the impact of other intervening factors that could come as a result of changing the presenters, the group tasks in the second phase were presented by the same students who made the first presentation. Partly, this was done because of the need to assess the extent of free-riding problem. The previous presenters did not expect that they would also present the second group assignment. However, even so, they were less timid, were confident, had coherence in their presentation and presented high quality of work with regard to content. Moreover, the students had more to say when they were asked to finalize their presentation.

Interview with each peer-led group indicated that the discussion made about group assignment, the nature of the second assignment, the instructor's follow-up, encouragement and feedback had a positive influence and they had clear idea about why group assignment was given and how they were expected to do it. They explained that they had better engagement in the second assignment than in the first. Students were also asked to provide evidence of each individual's involvement. Some detailed questions even went to the extent of asking the title of a material/book a student had read, its author, size of material, location (library), pages and the like. The specific activity or role a student had taken in the assignment was also probed. Most students were very much comfortable and were able to defend themselves persuasively by answering well the questions posed by the author. Some groups gave a written list of what each student in the group had read, searched and found and also what specific activity they performed in their roles.

To triangulate the data obtained from observation and interview, students were also presented with a checklist with five indicators of involvement or engagement. They were asked to rate their involvement during their first and second assignment. The results revealed that the

students showed improvements in their involvement in the second group assignment as compared to the first (see Table 1).

Table 1.

Students' Degree of Involvement in the Second Assignment as Compared to the First

No.	Indicators of Involvement	N	Ratings of Involvement					
			Min	Max	Assignment I		Assignment II	
					Mean	SD	Mean	SD
1	In my group, I was given a clear role to perform	38	1	3	2.18	.691	2.25	.514
2	I have searched for, found, and/or read materials or books that were used as reference for doing the assignment	38	1	3	1.97	.716	2.06	.442
3	In my group, I have successfully accomplished the role given to me	38	1	3	2.13	.704	2.83	3.58
4	During the group work, I have contributed by forwarding useful ideas and accepting others' ideas	38	1	3	2.39	.718	2.72	.616
5	I have adequate preparation to present the work if I am asked to do so	38	1	3	1.92	.673	2.19	.542
	Average Engagement				2.11		2.41	

As presented in Table 1, students' self-reported data indicate that they have brought improvement in their involvement in the second group assignment as compared to the first ($t=6.51$, $p=0.05$). Despite a significant statistical difference between the two means, the mean score of students' degree of involvement in assignment II is not remarkably far from the first phase. This may be because even though they are motivated to engage in the group task, time pressure (only two weeks) and course load (other tasks given for the semester courses) may have impacted their engagement.

2. Improvements in Students' Test Performance

As presented in Table 2 below, students scored better results in the second test as compared to the first. Students' understanding of the main theme of the assignment was poor in Test I implying their low engagement in the group assignment. Thirty-five students (92.2%) had scores of 5 and above in the second test, whereas 30 students (78.9%) scored 5 and above in the first test. To check whether students' mean scores in Tests I and II had significant difference, t-test was computed. As presented in Table 3, students' scores in Test I and Test II had significant differences ($t=2.80$, $p=0.05$), Test II results being significantly higher than Test I.

Table 2.*Comparison of Students' Scores in Tests I and II*

Test I			Test II		
Score (10%)	Frequency	Percent	Score (10%)	Frequency	Percent
1.00	1	2.6	4.00	2	5.3
1.50	1	2.6	4.50	1	2.6
3.50	2	5.3	5.00	5	13.2
4.00	2	5.3	5.50	5	13.2
4.50	2	5.3	6.00	7	18.4
5.00	5	13.2	6.50	5	13.2
5.50	11	28.9	7.00	8	21.1
6.00	6	15.8	7.50	4	10.5
6.50	6	15.8	8.50	1	2.6
7.00	1	2.6			
8.00	1	2.6			
Total	38	100	Total	38	100

Table 3.*Mean Difference of Students' Scores in Tests I and II*

Tests	N	df	Mean	SD	t-value	p-value
Test I	38	37	5.31	1.34	2.80	0.05
Test II	38	37	6.15	1.04		

In addition to their test scores, students' group projects (Assignment I and II) were reviewed and corrected. Students' results in the second group assignment/project were found to be better as compared to the first. As presented in Table 4, all the peer-led groups' scores were higher in the second assignment as compared to the first.

Table 4.*Comparison of Students' Assignment Scores in Phases I and II*

Peer-led Group	Score in the assignment designed in the conventional modality Assignment I (12%)	Score in Assignment II designed for intervention (12%)	Difference in Scores of Assignments (baseline and intervention)
1	7.5	10.5	+
2	5	7	+
3	6.5	8.5	+
4	7	10	+
5	5.5	7	+

To check whether students' mean scores in Assignments I and II had significant difference, t-test was computed. As presented in Table 5, their scores in Assignment II had a significant increase as compared to Assignment I ($t= 7.67$, $p= 0.05$).

Table 5.

Mean Difference of Peer Groups' Assignment Scores in Assignments I and II

Assignments	N	df	Mean	SD	t-value	p-value
Assignment I	5	4	6.3	1.04	7.67	0.05
Assignment II	5	4	8.6	1.64		

3. Changes in Students' Attitudes to Group Assignments

One important observation in the present action research project is students' motivation towards the project. The thorough discussion with students about the benefits of group assignment and their role as partners in the action research project brought about a positive perception. One student explained the change in attitude as follows.

I did not have a favorable attitude to group assignment before. Most instructors did not tell us the importance of working in groups to our academic and social life. They simply distribute tasks among our peer-led groups and use it as one assessment mechanism since the university requires them to give at least one task to be done in groups. The scores they give to group members are not also fair as it did not take into account the contribution of each member. After I was involved in this project, I learned that engaging in such tasks contributes many things to my future academic and professional life. I am now happy to contribute my own share to my peer-led group. (Daniel)

4. Reflection by Students

Whole class discussion was held with students at the end of the action research project and students were given the chance to reflect their overall feeling and opinion about their involvements in the group assignments during the preliminary and final action implementation and on group assignment in general. Such discussions with students strengthened the inferences made from presentations, interviews, observation, test and assignment results and checklists. One student explained her views during the whole class discussion as follows:

We learned that if the teacher is committed to support students in group assignment, we will not experience the challenges that we are facing in different courses concerning group assignment. I do not know why course instructors do not take group assignment seriously. If the instructors do not take it seriously, we similarly take it as something that is not serious. Why do you share your experience with each other if you do not know the value? (Rahel)

As explained by the student, if group assignment is well designed, it increases students' motivation and time on task. It is an important factor affecting their learning and achievement. Motivation enhances cognitive processing and directs students' behavior towards particular goals.

5. Reflection by the Instructor

Cooperation is a social capital enshrined in our culture. However, this capital is not thoughtfully tapped and integrated in the formal educational system of the nation. As Paulo Freire noted the chalk and talk, i.e., the lecture method, has dominated the formal education for decades. In response to the limitations of the lecture method, active learning methods, in particular, cooperative learning is encouraged as a pedagogical approach in universities. However, this method is not universally accepted by both instructors and students. While serving as an instructor for more than a decade, I have been interested in cooperative learning and in action research very lately while I was facilitating cooperative learning and conducting action research as part of the requirement for Higher Diploma Program and my PhD study.

Cooperative learning, in particular group project/assignment, is stipulated as one form of learning and assessment strategy in the students' assessment directive of Bahir Dar University. Nevertheless, most instructors seem not to come out of the so called 'comfort zone' of lecturing. They justify that students are not interested in working on tasks cooperatively. We should not assume that our students lack the willingness to engage in cooperative projects. Theory and practice show that cooperative learning strategy benefits our students both socially and academically. It also helps them to prepare for real life. As instructors, we must always strive to improve our students' engagement in their learning. This action research project can be a showcase that if cooperative learning projects are appropriately planned, designed, monitored and managed, and active engagement of the learners is ensured, students can benefit a lot from such learning tasks.

However, since most instructors do not take cooperative learning projects seriously, students have no commitment to actively engage in such tasks. In most cases they do not go beyond superficial engagement with the learning tasks. Based on my experience as an instructor and action researcher, if students are encouraged to make commitments, they can make a difference. They can change the existing passive learning environment. Such initiatives of course require time and effort as well as experience of both the instructor and students.

Discussion

The results of the action research project indicate that with the transformed role of the instructor as facilitator and energizer of student engagement and learning and by recognizing our students as partners, cooperative learning tasks (e.g., group assignment) can be made to have invaluable educational value. This section corroborates the findings with relevant literature.

Group Assignment Improves Students' Engagement in the Learning Task

In this study, comparison of students' engagement in the first and second group assignments showed that if well planned and properly managed, group assignments enable students to have significant improvement in their active involvement in collaborative tasks. In the second action implementation, while peer groups were asked to report their progress every four days, almost all members of the peer group were comfortable to explain what they did in relation to the group task. They also clearly reported their role in the group. Unlike the preliminary action implementation, in the second phase students reflected that they have made adequate preparation for presenting their group project if they were to be nominated as presenters.

Several studies support the present finding attesting that if properly implemented, cooperative learning (e.g. group assignment) benefits students both socially and academically (Aldosari, 2016; Gillies, 2016; Johnson, Johnson, Roseth & Shin, 2014; Liao, 2006; Mello, 1993; Slavin, 2014; Sormunen, Tanni, Alamettälä & Heinström, 2014). Mello (1993), for instance, identified five benefits of group assignment: students gain insight into group dynamics; they can tackle more comprehensive assignments; interpersonal skills can be developed; students are more exposed to others' points of view, and they will be more prepared for the commercial world. In these studies it is noted that the interaction of members engaging in group assignments would develop generic skills such as communication and critical thinking skills. Group assignments also offer teachers an effective way to increase the complexity and challenge of the tasks that can help students gain different experiences, engage students and offer them the opportunity for collaborative working.

Group assignment as one form of cooperative learning is becoming a common feature in institutions of higher education. It benefits students who engage in it. Not only does it assist them in acquiring knowledge, but it also helps them to develop cognitive and social skills. However, if it is not properly designed and managed cooperative learning can have different limitations. One of such limitations is using the groups' products as part of course assessment and awarding of equal grades to all members of the group regardless of contribution. Participation of students in cooperative work varies in terms of effort exerted by the participants (Divaharan & Atputhasamy, 2002).

Group Assignment Improves Students' Performance

Students' results of the group project and the test administered to evaluate their understanding of the contents of the task showed that they had significant improvement in their scores in the second assignment. This was assumed to be the result of thoughtful design of the group task, a thorough discussion with the students on the importance of group assignment as one form of cooperative learning and proper follow-up of each group's progress and encouraging students to take ownership of their own learning.

Meta-analysis studies on cooperative learning revealed that proper implementation of cooperative learning tasks have positive impact. For example, an analysis of 164 studies comparing

cooperative learning to competitive and individualistic learning among college students showed that cooperative learning led to a relative increase in student academic performance and students also showed improvements in both attitude and self-esteem (Johnson et al., 2006). Another review of 39 studies comparing STEM classrooms that used small-group activities with those that did not reveal that students who participated in group activities had greater academic achievement and increased persistence through STEM courses than those who did not (Springer et al., 1999).

Overall, effective student participation in group work is an important learning strategy for higher education courses (Elgort, Smith & Toland, 2008). Although some students feel as though they can accomplish assignments better by themselves rather than in a group, empirical evidence shows that group work helps students apply their knowledge and social skills to real world experiences (Elgort, Smith & Toland, 2008). However, merely assigning a group and giving a task without designing it thoughtfully does not itself create critical thinking outcomes. Instructors need to be cognizant of how best to facilitate effective collaborative learning environments (Burke, 2011).

Group Assignment Improves Students' Attitudes towards Cooperative Learning

During the whole class discussion at the end of the action research project, students explained that if group tasks have serious follow up by the instructor, it contributes a lot to their social and academic competence. Some students reported that they enjoyed their participation in the second group learning projects. They noted that it helped them to understand difficult concepts in the course.

A number of researchers support the view that when students are exposed to cooperative learning like group assignment, their attitudes gets improved. Johnson and colleagues' review of the cooperative learning literature indicated that in addition to a relative increase in student academic performance, improvements were noted among students in both their attitudes and self-esteem. Johnson & Johnson (2002) also noted that when students are exposed to a variety of thoughts, perspectives, and thinking styles, interacting with others and working in groups also increases student motivation and has a positive effect on their attitudes. Vaughan (2002) similarly noted that students show improvements in their attitudes when exposed to cooperative learning tasks.

Conclusion and Implications

Implementing group assignment/project as one form of cooperative learning strategy requires the commitment of the instructor and students. If cooperative learning is executed thoughtfully and systematically, it provides students with an opportunity to improve their social skills, attitudes and achievement. Planning and designing the task, however, takes time and priority. The instructor also needs to prepare clear guidelines. A monitoring and evaluation scheme also needs to be in place. Moreover, peer groups need timely feedback.

One of the conclusions drawn from the present action research project is that by encouraging students to take ownership of their learning, proper planning, thorough discussion about the value of group assignment, and continual guidance and follow-up, it is possible to increase students' engagement in group assignment and improve their performance. On the part of students, it is important to plan their group project before directly engaging in the task. The leader should assign roles to each of the group members. Every student in the group needs to be encouraged to actively take part in bringing the required outcome of the project. Every student in the group has to know that he/she is accountable for his/ her own and the group's performance.

Instructors at Bahir Dar University as well as in other public universities are using group assignment as one form of learning and assessment strategy. However, the design and follow-up is poor. The finding of this study suggests that to benefit the most out of group assignments, it is important for instructors to give due attention to students' engagement in the given activity. The present action research project raises practical issues that instructors need to consider in designing and carrying out group assignment. Proper planning, follow-up, guidance and support and having thorough discussion with students on the why and how of doing group assignment overcomes the drawbacks while amplifying the benefits. Students ownership of their learning is also a key issue in designing effective cooperative learning (e.g. group assignment).

As revealed in the study, a change in students' engagement and performance in group assignment was noted following the implementation of Phase II. However, the impact of the action of individual students in the group was not examined. The outcome could have been more comprehensive if analysis was made on which type of action (e.g., discussion with students, follow-up and support or testing) contributed a lot to the improvement. Further, the present action research project focused on individual level issues such as the free rider problem as factors influencing individual student involvement. However, team level issues such as intra-group trust, group formation, team member satisfaction, workload sharing, group cooperation and communication, shared leadership and interpersonal work group processes were not considered. Time constraint was another pressure in the present action research project. These issues need to be considered by future research. This action research is implemented on a class of 38 students. This is not the reality in most other classes at Bahir Dar University and other public universities, too. As a result, large scale action research project should be planned with adequate time and greater number of students.

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