

Improving Students' Participation in Group Tasks: Case Study of Adama Science and Technology University

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Abstract—Group task is one method to create the conducive environment for the active teaching-learning process. Performing group task with active involvement of students will benefit the students in many ways. However, in most cases all students do not participate actively in the group task, and hence the intended benefits are not acquired. This paper presents the improvements of students' participation in the group task and learning from the group task by introducing different techniques to enhance students' participation. For the purpose of this research Carpentry and Joinery II (WT-392) course from Wood Technology Department at Adama Science and Technology University was selected, and five groups were formed. Ten group tasks were prepared and the first five group tasks were distributed to the five groups in the first day without introducing the techniques that are used to enhance participation of students in the group task. On another day, the other five group tasks were distributed to the same groups and various techniques were introduced to enhance students' participation in the group task. The improvements of students' learning from the group task after the implementation of the techniques. After implementing the techniques the evaluation showed that significant improvements were obtained in the students' participation and learning from the group task.

Keywords—Active learning, evaluation method, group task, students participation.

I. INTRODUCTION

GROUP discussion has been identified as one of the most interactive and effective educational methods and helps students to learn and articulate their views and respond to opinions that differ from their own. The number of students in a group may vary depending on the group task given and other factors [1], [2]. In most cases a group is recommended to have two to six students to give enough opportunity for all students to participate in the group task [3], [4]. There is no 'magic bullet' to enhance students' participation in the group task, but a number of strategies are available that would enhance the participation, particularly when they are combined and applied together [5]. Various strategies are identified and discussed below that are likely to increase student participation although some are more appropriate and more effective in particular discipline and environment than the others.

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A. Observing the Groups While They Carry out the Task

When students are working in groups there are possibilities of departure from the topic and may spent their time on unrelated issues. Therefore, the presence of the teacher and visiting their progress while they are performing is important. While the teacher visits the group, he may need to interrupt and redirect the discussion if he realizes that the group digresses from point of discussion; conversely if the group is conducting the task in the proper direction and pace, it is better not to interfere with their discussion.

B. Instruct the Group to Write the Contribution of Each Student in the Group Task

Usually groups would have a risk to be dominated by one or two members and other members could be passive in the group task [1]. If the groups are notified that each member is expected to have contribution in the group task, and the contribution of each member has to be reported in the group task, group members would have better participation in the task. It is also important to consider the contribution of each member in the evaluation and inform the groups that each member will be assessed according to his/her contribution.

C. Instruct the Group to Share Responsibilities among the Members and to Write down the Responsibility of Each Student in the Report

Sharing the responsibility among the members of the group will reduce the dominion of the group by one or two students, and the members will have certain contribution in the task. After the group has formed and conducting a short brainstorming session, the group may share responsibility among members according to their interest or by vote [6]. The responsibility of each member should also be mentioned in the report.

D. Ask Anyone in the Group Randomly to Present the Group Task

To make each member thoughtful on the task, initiating every group member to present the group task would enhance participation of the members in the group. During the group work, students will keep in mind that the possibility of

presenting their work and thus an active involvement of members would be viable.

E. Plan to Ask Anyone in the Group

If students know they are asked any question related to the group task, there will be better involvement of members in the task, and create a better chance for students to learn more from the task.

F. Create Conducive Physical Sitting

The way in which people behave in small groups is frequently affected by the sitting arrangement they are located or seated in relation to one another and to the group leader. If one spends all the time at the front of the class, near the blackboard, he may have the feeling that he is the one with all the knowledge and answers, and that this is likely to induce responsibility among the students [5].

G. Introduce the Task Clearly

Map out what the groups are intended to do - that is, outline the general approach you intend to give to the groups and ask students for comments and questions on the approach. Discuss expected outcome from the task and negotiate some ground rules [5], [7].

H. Use Icebreakers Carefully

Icebreaker can help students to get to know each other and ease communication between them. Well-constructed icebreakers will also help lessen any tension or anxiety that may be present, especially in the first session. Thus groups would begin their work on a friendly and positive tone [5], [6].

I. Learn Students' Names

Students will respond to you more if they feel that you know them. Getting their names right is a useful step towards building up the sort of relationship which fosters learning [5].

J. Set Ground Rules

Most teaching-learning process functions well when there is a clear understanding of 'the rules' that govern the teaching-learning environment. If a shared understanding is not established in a small group, students will be confused and this can adversely affect their participation and decision. Discussing each rule/expectation for few minutes with students is advisable to make clear about the importance of the rules. The ground-rules agreed should also be recorded and hence it can be referred while performing the group task [2], [5]. Below are a few suggestions for ground rules/ expectations:

- Let's all do some preparation before coming to the group task.
- Let's all contribute by speaking, listening and encouraging others to speak.
- Let's not interrupt each other.
- Let's respect each other's points of view, even when we strongly disagree.
- Let's all take risks and allow ourselves to be wrong at times.
- No put-downs of others, even as a joke.
- Let's all try to be on time.

K. Ask Good Questions

Questioning is a key facilitation skill for small group participation. Lively and focused discussions are more likely to take place if questions are well planned and aligned with the purposes of the task [5].

The above strategies to facilitate student participation are best used in combination with each other. For example, teachers who set up the room/space appropriately; ensure thorough introductions and icebreaker activities; orient students fully to the task(s) at hand; operate by an agreed set of explicit rules, and use a range of activities to have students thinking, talking and engaging will facilitate a higher level of quality participation than those who simply state that participation from everyone is expected in the group task.

II. RATIONALE OF THE RESEARCH

In most cases group tasks given to students in universities are done by few members of the group. Only some students are dominant in the group and perform the group task without the active involvement of others. Hence, the anticipated learning through group task does not meet the intended objectives. Besides, students who perform very well and very poor will not be identified and rewarded accordingly. Therefore, it is necessary to consider ways of improving all students' participation in group tasks, and rewarding each student according to his/her contribution in the group task.

III. METHODOLOGY

A. Group Formation and the Techniques Used for the Experimentation

For the purpose of this research a third year course, Carpentry and Joinery II (WT 392), was selected in the department of Wood Technology at Adama Science and Technology University. The number of students taking the selected course were 27, and 5 groups were formed. To minimize the competence gap between groups, students were assigned to each group by the instructor based on their performance. Three of the groups had 5 members and the remaining had 6 members. The groups were seated in a circular arrangement. Ten different group tasks were prepared. The first five group tasks were distributed in the first day to the groups without introducing the techniques that were used for the improvement of group participation. On the other day, the other five tasks were distributed to the same groups and eight techniques were introduced for the improvement of students' participation in the group task.

The techniques identified and implemented in the second day were,

1. Observing the groups while doing their task,
2. Instructing the groups to write the contribution of each member of the group,
3. Instructing the groups to share responsibilities among the members and report their responsibility,
4. Telling the groups that the group task will be presented in a random fashion so that any one from the group might have a chance to present,

5. Telling the groups that anyone in the group could be asked any relevant question about the group task,
6. Setting a group in suitable form for the group task,
7. Introducing their task to the groups appropriately,
8. Preparing a well-planned group tasks and given to the groups.

B. Evaluation of the Group Performance

The improvements of students' participation in the group task and their learning from the group task after implementing the techniques were assessed using the following evaluation methods.

1. Asking students to answer questions voluntarily on their group task.
2. Creating task division in a group.
3. Observing the participation of students while they are doing their group task.
4. Request the students to summarize their group task individually in writing.

5. Asking questions randomly.

IV. RESULTS AND DISCUSSION

The evaluation of students' participation in the group task and their learning from the group task before and after implementing the selected techniques are summarized in Table I. As shown in the table, in the first evaluation method the total number of hands raised voluntarily to answer questions was increased from 12 (44.4%) to 23 (85.1%). Regarding the task division, which is mentioned as the second evaluation method in Table I, the groups were not instructed to share responsibilities in the first task and they were performing the group task without systematic division of activities. In the second task instruction was given to share responsibilities among group members and every member took certain responsibility and discharges his/her responsibility.

TABLE I
SUMMARY OF RESULTS

| No. | Method of evaluation | Group 1 | | Group 2 | | Group 3 | | Group 4 | | Group 5 | | Remark |
|-----|--|--|----------------------------------|-----------------------------------|----------------------------------|-----------------------------------|----------------------------------|---|----------------------------------|-----------------------------------|----------------------------------|---|
| | | Before introducing the techniques | After introducing the techniques | Before introducing the techniques | After introducing the techniques | Before introducing the techniques | After introducing the techniques | Before introducing the techniques | After introducing the techniques | Before introducing the techniques | After introducing the techniques | |
| 1 | Number of willing students to give answers for questions forwarded | 1 | 4 | 2 | 4 | 3 | 5 | 3 | 4 | 3 | 6 | |
| 2 | Task division | No | Yes | No | Yes | No | Yes | No | Yes | No | Yes | |
| 3 | Participation of the students in the group task | Moderate | Active | Passive | Moderate | Passive | Active | Passive | Active | Moderate | Active | Instructor observation while students were doing their task |
| 4 | Number of students able to summarize the group task | 2 | 4 | 1 | 4 | 2 | 5 | 3 | 5 | 2 | 6 | Number of students that summarizes satisfactorily |
| | | Before introducing the techniques | | | | | | After introducing the techniques | | | | |
| 5 | Number of students able to present their group task | Two students that were randomly selected from the groups were able to present their group task satisfactorily. | | | | | | Four students that were randomly selected from each group were able to present their group task satisfactorily. | | | | The selection was random and one from each group |
| 6 | Asking questions randomly (two students from each group) | From each group two questions were asked randomly and only four students were able to answer satisfactorily. | | | | | | From each group two questions were asked randomly and eight students were able to answer satisfactorily. | | | | |

As shown in the third evaluation method of Table I, the participation of the students showed significant improvement during the second task compared to that of the first task when the instructor observed the groups while they were doing their

tasks. The students became more attentive and active in the second group task, because the groups were instructed to have certain responsibility in the group task and anyone from the group members was also expected to present their work and

answer questions regarding their task.

When each student was requested to summarize the group task individually, No. 4 in Table I, only 10 (37%) students were able to summarize the group task satisfactorily from all groups. But after implementing the techniques 24 (89%) students were able to summarize their tasks satisfactorily.

The result of the fifth evaluation method in Table I, i.e., when students were asked randomly to present their group task, showed that in the first task only two students were able to present their group task satisfactorily, while after introducing the techniques four students were able to present their group task satisfactorily. In the sixth evaluation method, when each group was asked to answer two questions which were related to their group task randomly, only four students out of ten were able to answer satisfactorily before introducing the techniques, whereas after the introduction of the techniques eight students were able to give correct answers.

V. CONCLUSIONS

Though group task is one method to create active teaching-learning process, the desired learning of students from the group task is not achieved due to lack of active involvement of all students. To improve students' participation in the group task and to get all the benefits from the group task, using appropriate techniques that encourage active involvement of all students in the group task is essential.

In the present study five groups were formed and eight techniques were applied to improve students' participation in the group task. Carpentry and Joinery II (WT 392) course from Wood Technology department at Adama University was selected for the investigation. The improvement of students' participation was assessed and evaluated using six methods. The results of the assessment showed that students' participation has improved significantly when the techniques were applied during the group task. The number of students who were willing to answer questions which were asked about their group task has increased from 12 (44.4%) to 23 (85.2%). In addition, students who were able to summarize their group task satisfactorily increased from 10 (37%) to 24 (89%) after the techniques were implemented. When a member from each group was randomly asked to present his/her group task only two students were satisfactorily presented from five groups before introducing the techniques; while after the techniques were introduced four members were able to present their group task satisfactorily. Generally, in the current study satisfactory improvements of students' participation and learning were obtained by introducing different techniques. Conversely the authors believe that the intended learning outcomes from group task can't be achieved without applying appropriate methods of motivation of students to involve in the group task.

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