

Group Work Assessment: Assessing Peer Assessment at Global College of Engineering and Technology

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Abstract

Students learning and autonomy can be improved by involving them in teaching and learning, especially in group work assessments, this can also greatly help cut down the amount of time spent by teachers on marking and providing feedback. Although peer assessment of student work can also accomplish these goals, but its application is frequently restricted to evaluating each participant's input or participation to a cooperative effort. This paper reports the considerations and lesson learnt to successfully develop a group work assessment and marked based on the individual's contribution to avoid conflicts. It's worth mentioning that the peer-assessed marks are not significantly different from those allocated by faculty based on evaluative criteria, quality definitions, and a scoring strategy.

Keywords: *Peer Assessment, Group Work, Assessment, Marking, Task Delivery.*

1. Introduction

Group assessment is a valuable tool to facilitate the development skills for the peers (Forsell et al., 2020). It enhances the individual leaderships and teamwork skills including working among peers with harmony (Inam et al., 2021). It increases the collaborative skills and analytical thinking (Hunaidah et al., 2018). It also creates the sense of responsibility among peers, eventually equips students with time management and organizing skills (Wilson et al., 2021). Higher Educational Institutions (HEIs) implement group assessment to equip students with the skills required in the real world where they should have all the said qualities and streamlining the assessments and grading tasks. On the other hand, group assessment is also used to reduce the workload of faculty as the number of assessments to be marked reduce as compared to individual assessment (Almond, 2009; Davies, 2009).

This brings the problem of assessing individual contribution because group work is considered a product which consists of sub processes and individual contribution to complete subprocesses results in completion of a final product (Thomas, 2012). As an academician this may lead to inequality in assessing individual contribution, which in turn might not be acceptable by students, and can be unfair to the group members (Martino & Polinori, 2010). As group assessment

can reduce the workload of a faculty but designing an assessment carefully and thoughtfully that caters all the problems in such a way that students is marked as per the contribution and assessment learning outcomes achieved by individuals.

After the abstract, the paper should be organized as follows: Section (2) should provide the background, context and aim of the study; Section (3) on the issues and concerns related to peer assessment; Section (4) discuss the designing of the group work; Section (5) presents the implementation of the group work; Section (6) have a discussion and lessons learned from the study; and Section (7) concludes the study.

2. Background

This study was conducted at The Global College of Engineering and Technology, GCET, which is a private Higher Education Institution located in Muscat, Sultanate of Oman. It was founded in 2014 and commenced operation with the first intake in the autumn of that year. The College is regulated by the Ministry of Higher Education (MoHE) and is affiliated with the University of the West of England (UWE), Bristol, UK on a franchise basis. This means that the awards of College's academic programmes are issued by UWE (GCET, 2022). For the study, a Level 2 module was selected from the Computing and Information Technology (CIT) department. This module consists of 2 practical group work components which makes it easier to implement group work strategy and to reflect on the lessons learned after the module delivery. The aim of this study is to successfully implement peer assessment based on individual contribution and lesson learned from the peer assessment.

3. Issues and Concerns

3.1 Employability

Due to immense pressure of studies and final grades students tends to develop the habit of working on their own and strive towards their own personal achievements. Students find it difficult to negotiate working in a team setting as their perception of learning is to achieve the passing marks only. It is difficult to convince students to actively participate in group assessments, which should help them effectively prepare for the employment. Secondly, there is a gap between the real workspace

Peer Assessment Form

Name : _____
 Student ID : _____
 Group No : _____

Peer's Name	Regularly/Promptly Replies Messages				Regularly Attends Meetings				Equal Contribution											
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

Please put circle around one number with following meanings:
 1 - Strongly Disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly Agree

Figure 13. Peer Assessment Form

Contribution	Minimal Contribution	Moderate Contribution	Equal Contribution	Exceptional Contribution
	0.01 – 0.34	0.35 – 0.69	0.70 – 1.00	1.00 +
Criteria	<ul style="list-style-type: none"> All or majority agreed on that no or minimal contribution made No or very late replies to the messages No attendance to the meetings Nether intellectual nor practical contribution reported 	<ul style="list-style-type: none"> No clear agreement on the level of contribution made Not very frequent replies to the messages Few attendances to the meetings Moderate level intellectual and/or practical contribution reported 	<ul style="list-style-type: none"> All or majority agreed on that maximal contribution made Regular replies to the messages Regular attendance to the meetings Clear intellectual and practical contribution through all Sprints 	<ul style="list-style-type: none"> All agree on exceptional contribution Lead figure in the group Full attendance to the meetings Intellectually and practically dominated the group
Individual Mark = Contribution x Overall Group Mark				
Notes:				
1. Individual contribution will be evidenced with (a) Task Delivery Forms, (b) confidentially submitted Peer Assessment Forms.				
2. All members will receive the same mark in the cases of equal contribution				
3. If one member has performed exceptional contribution, he/she will get higher mark than the group, while the others will receive proportionally lower marks.				
4. This procedure will be applied to full disagreement cases, and clear lower or exceptional contribution cases.				

Figure 14. Individual Performance Rubric

Figure 5. shows the mechanism used to provide feedback, as per the module specification video recorded verbal feedback has been provided. Video recorded feedback helps students to listen to the feedback after the demonstration, to identify their strengths and weakness to overcome in the upcoming group assessment.

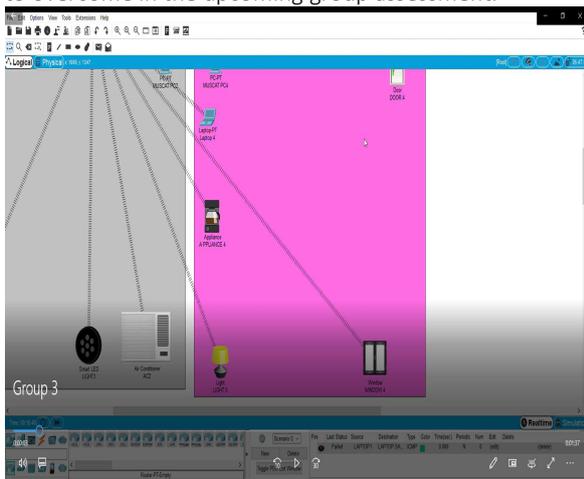


Figure 15. Video Feedback

effective cooperation among the peers. Some may prefer to be guided by a clear model whereas some might prefer informal discussion and meetups and produce the product based on their intuitions.

Well organized and supported group work may build confidence in students and can lead to better self-building for the marketplace. Providing explicit guidelines can help improve the coordination among the group members. Letting students choose their own group rather than staff assigning them.

Establishing the roles and responsibility of group members is useful for guiding their own discussions about roles instead of imposing on them. Scheduling group meetings as students find it difficult the time and workload pressure and, in many cases, resulting anxiety, of organizing oneself to attend and contribute to group meetings is keenly felt by many students in HEIs. Sometime after lecture sessions should be provided by the faculty to discuss the issues and support how to manage a group can help in achieving better grades.

Defining group processes and procedures well in advance and providing details to students alongside of the weightage of each criterion to make it clear for students about the marking. Below discusses the lesson learnt from the assessment.

Table 1 Instructor Assessment of Group Work (McGraw, 2022)

Assessment Option	Advantages	Disadvantages
1 group submission and each student receives same marks irrespective of their contribution.	<ul style="list-style-type: none"> Straight forward mechanism. Decreases the likelihood plagiarism. Works together as harmony and no one to blame for the grades. 	<ul style="list-style-type: none"> Disadvantage for stronger students or vice versa. Individual contribution is not reflected properly in the grades.
Individual submission and receives average marks.	<ul style="list-style-type: none"> Provides focus on individual as well as group work. 	<ul style="list-style-type: none"> Unfair to students. Disadvantage for stronger students or vice versa.
Each student is marked individually based on the allocated task.	<ul style="list-style-type: none"> Possibly best way to ensure individual participation. Provides motivation and rewards for performance. 	<ul style="list-style-type: none"> Doesn't encourage collaboration. Task dependencies might slow the progress of other students. Task division based on the complexity.

6. Discussion

Finding a best model to fit the context is difficult as it depends on the nature of the assessment. Imposing one model over the other can impede learning and prevent

Each student is marked based on the reflective writing on the tasks they perform in a group.	<ul style="list-style-type: none"> Fair in most cases. Ensuring individual effort. 	<ul style="list-style-type: none"> Students should be clear on how to write the reflective part as can differ from on another hence can effect on the grades. Likelihood of plagiarized work.
End semester examination targeting specific questions based on the group project.	<ul style="list-style-type: none"> Motivation to learn from the assessment but from peers too. 	<ul style="list-style-type: none"> Diminish the group work importance. More work required to formulate the examination questions. Not effective as report can answer the question for those who participated less in the group.
Combination of Group Average and Individual Mark.	<ul style="list-style-type: none"> Fairer than shared group marks. 	<ul style="list-style-type: none"> Procedure and negotiations adjustments required in case of dis agreement.

Table 2 Student Assessment of Group Work (McGraw, 2022)

Assessment Option	Advantages	Disadvantages
Marks distribution from the pool of marks.	<ul style="list-style-type: none"> Easier to implement. More student contribution. Rewarding for outstanding performance. Fairer than shared group marks. Motivate students to contribute more. 	<ul style="list-style-type: none"> Can lead to conflict. Foster competition. Open subjective evaluation by friends.
Students allocate individual weightings	<ul style="list-style-type: none"> As Above. 	<ul style="list-style-type: none"> As Above.
Peer evaluation	<ul style="list-style-type: none"> Helps to clarify the criteria for assessment. Encourages responsibility and involvement. Increase feedback to students. Provides experience to careers. Skill development in independent judgment. 	<ul style="list-style-type: none"> Make students learn how to evaluate each other. Moderation for instructor can be time consuming.

Peer assessment's usage and exploration have expanded along with the prevalence of group work at HEIs. Peer evaluation helps to solve issues with group dynamics and Formative peer evaluation enhances both individual and collective performance. Peer evaluation exercises hone vital professional abilities and are in a position to offer insightful criticism. Peer evaluation strengthens the validity of the grading system. Designing the assessment is a challenge for instructors and comes with challenges such as student acceptance, student inexperience, setup and monitoring time and moving beyond surface level engagement. Apart from these challenges there are few strategies that can help instructor to formulate better assessment's such as set expectations and clarify goals, provide training for students, model assessment and feedback, emphasize on written feedback, encourage elaborated feedback, allow opportunities to apply feedback, allow adequate time and spacing for the process and align peer assessment to key learning goals.

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7. Conclusion