Assessing the Efficacy of Group Work Using a Group Work Assessment Framework

Karma Utha

Abstract

Group work as a learning activity in education is to enhance students' content knowledge and develop social skills. The minimal individual and group accountability has often led to only a few students working towards achieving the group goals. Research has suggested taking care of the task design and assessment to achieve the efficacy of group work. Towards this, a Group Work Assessment Framework (GAF) is proposed. The GAF consists of a detailed roadmap of planning, implementation, and assessment taking into account the task design and assessment with specific guidelines for teachers and students. A participatory design to develop and implement the GAF was applied. Six tutors as designers and 11 tutors as implementors were involved. A total of 221 students and 8 tutors participated in the survey and interviews. The findings indicate that GAF enhanced individual and group accountability. The assessment of the group work was found to be fair as each student was marked based on his/her contribution and collaboration using evidence like meeting minutes, meeting attendance, recording, and student consultation. The study findings may provide an empirical base for policy directives to implement GAF in higher education to enhance students' learning and develop social skills. A study may be carried out after a few cycles of implementation for any revision in the GAF.

Keywords: Group work assessment framework, collaboration, contribution, learning, assessment, team

Introduction

In most education setting, group work is a part of routine learning activities. It is a strategy where two or more students work collaboratively towards achieving a common goal (Rance-Roney, 2010). It is either carried out as in-class activity or out of class activity. Usually, group work as out of class activity in the form of assignments is graded. In this study, the group work is understood as an assignment with grading.

Group work offers a collaborative learning environment. It is said to increase students' confidence and make them responsible for their own learning (Sajedi, 2014). Also, effective student participation in group work is an important learning outcome for any higher education courses (Elgort et al., 2008). Besides, Burke (2011) has mentioned that: groups have more information than an individual, groups stimulate creativity, there is more retention of subject learnt, and students gain a better understanding of themselves. Besides, team work spirit is highly valued by employers. However, Beebe and Masterson (2003) indicated some challenges like peer pressure to conform to the majority opinion, some individuals dominate the discussion, some members may rely too heavily on others to do the work, and, more time to work in a group. Among these challenges, members relying heavily on other students termed as free riders is often discussed as one main drawback of group work (University of Wollongong assessment policy, 2002; Delvin, 2004; Šeric & Praničević, 2018; Forsell, et al., 2020). Noonan (2013) has described free riders as students who do not contribute at all or their contribution is not at the required level to complete the group assessment task. Research

says that the challenges could be removed or minimized, if group work assessment is taken care of (Brooks & Ammons, 2003; Delvin,2004; Murray & Boyd, 2015; Strom & Strom, 2011).

In the colleges of Royal University of Bhutan (RUB), group work is one of the dominant learning practices. Utha and Tshering (2021) pointed that at least one group work is assigned in almost all the modules offered in the colleges of RUB. However, they reported that existence of free riders is one of the main drawbacks of group work which is attributed mainly to less attention paid on task design and assessment practice. The poor task design allowed task to be divided into sub parts leading to students working on select part individually. The meaningful learning through interdependence was minimal or non-existent. This led to group members learning only the portion they worked on defeating the very essence of group work to develop content knowledge and social skills. Further, same grade was given irrespective of member contribution. This led to existence of free riders with many students preferring individual task over group work. The tutors were not in a position to effectively assess the group work as they lacked expertise on it and there were no documents to refer.

With increased use of group work as a pedagogical approach in higher education, its efficacy in enhancing students' learning needs to be considered seriously. According to Delvin (2002), the students' approach to group work is largely determined by the way they are assessed as assessment defines the character and quality of group work. Hence, the importance in designing the assessment to discourage existence of free riders. Mellor (2012) suggested some key consideration to be undertaken while assigning group work:

- Choose an appropriate group size of 3 to 5 members.
- Assess individual performance within the group setting by allocating certain proportion of marks for individual contribution;
- Make timetabled sessions available for groups to meet to discuss progress.
- Maintain a diary or log and invite each group to provide brief minutes of meetings indicating attendance, goals agreed and progress made against targets.

Hence, this study aimed to develop and implement a Group work Assessment Framework (GAF) that will take care of task design and assessment process to enhance the efficacy of group work.

Literature review

Several Universities have their own assessment policy on group work (University of New South Wales, 2020; University of Wellington, 2004; University of Wollongong, 2002) but a clear group work assessment framework seemed missing. This study could get access to only one group work assessment development (GAD) by Shermin et al (2019).

Researchers agree that group work encourages group dynamics leading to students learning subject knowledge as well as social skills like effective communication, collaboration, and project management (Hammar Chiriac, 2014; Davis, 2009, Shermin, et al., 2019). Delvin (2004) reported that group work leads to positive learning when effective group management processes are employed, clear assessment guidelines developed and communicated, and valid and fair grading processes are employed. Alternatively, if students are not aware of the objectives of group work, are unsure of what is expected of them, or believe the assessment

methods are invalid or simply unfair, the educational benefits are reduced and tensions can emerge.

For group work efficacy, importance has to be attached to task design and how to assess. As per the group work assessment guidelines of the University of Wellington (2004), the task needs to be designed in a way to encourage students' collaboration and care must be taken to ensure that each group is given an equivalent task to make assessment fair. Davis (2009) elaborated that task needs to be designed to maximize students' contribution and reward the effort of the group beside the work of individuals.

On the assessment, Delvin (2004) highlighted that the design of assessment is central to capturing the benefits of group work and avoiding its pitfalls. The way in which students' approach group work is largely determined by the way in which they are to be assessed. Some researchers recommended use of peer assessment (Brooks & Ammons, 2003; Freeman & McKenzie, 2002), assessing group interaction (Brooks & Ammons, 2003; Strom & Strom, 2011), assessing intellectual contribution (Murray & Boyd, 2015; Strom & Strom, 2011), assessing knowledge contribution (Brooks & Ammons, 2003; Goldfinch, 2006) and maintaining a journal or diary to be used for assessment (Brooks & Ammons, 2003). In line, Shermin, et al. (2019) have summed that for group work efficacy, fair opportunities should be provided to all members to demonstrate their knowledge at individual as well as group level.

A fundamental principle informing all assessment decisions is that the marks allocated should be consistent with achieving the learning objectives of the course (University of Wellington, 2004). An assessor needs to be mindful of what is assessed: product or process or both (Forsell, et al.,2020). Delvin (2004) mentioned that for fair assessment, separate criteria to assess process and product of group work is necessary. The Centre for Academic Development (CAD) (2013) suggested that students should be assessed individually in a group work taking into account the contribution made. Information on contribution can be provided in a variety of ways (e.g., use of oral tests, individual summaries of contribution and achievements, the use of peer assessment to evaluate the contribution of self and other members). However, the students should work collaboratively and complete the required group task.

Methodology

A participatory design (PD) commonly practiced in the Scandinavian countries to enhance practices is implemented. It involves future users of the design as co-designers in the design process (Velden et al., 2014). According to Ferguson and Candy (2014), PD centers around the idea that people who are affected by a decision, event or product should have an opportunity to influence it. Including users in all stages of the design process increases their ownership of the end product and the probability of a usable design in the long term. When participants invest their time in a project, they are more likely to continue caring about the project after it finishes resulting in them taking initiative on maintenance and improvements.

The PD outcome is often in the form of a prototype for a product or service, or a new way to organise a work practice or to design a space (Velden et al, 2014). Out of the many methods to carry out PD like card method, mapping method, future workshops, mock-ups, storyboards, scenarios, probes, walk-throughs, games, workshops, cartographic mappings,

and collaborative prototyping, future workshop as an intervention strategy was used for this study. The future workshop process is carried out in 3 stages (Spinuzzi, 2005).

Stage 1 Preparatory phase: Here, the researcher as a designer presented the issues in group work practices in the colleges of RUB to the co-designers. Thereafter, the co-designers reflected on their own practices.

Stage 2 Critique phase: To get an understanding of some of the best practices in other higher educations, the researcher undertook literature study and the findings were presented to the co-designers. The findings focused on choosing a group task, group formation and assessment practices. Then the designers carried out an in-depth literature study and chose three or more group work assessment practices that each valued. Each designer shared how the chosen practice is related to one's practices and what value it could add to address the existing problem.

Stage 3 Design phase: With the understanding derived from the literature study, the designers developed a Group work Assessment Framework (GAF) that will help to address the problem.

The stages 2 and 3 were iterated till the design was accepted for implementation by all the designers. The finalized GAF was implemented by designers and volunteer tutors in one of their taught modules in autumn 2021 semester.

Site and sampling

The study was carried out at Samtse College of Education (SCE) as the PD required researcher as a designer to work closely with the co-designers selected from a pool of tutors, over an extended period. Further, the design will have to be redesigned where required and frequent consultation will be necessary in the implementation.

Eleven tutors including six designer and co-designer implemented the GAF in their respective taught modules. At the end of the implementation, survey, interviews and descriptive qualitative responses were inducted. A total of 201 students from across programmes participated in the survey. A total of 20 students in 5 focus groups participated in interviews. Descriptive qualitative responses were gathered from 8 tutors.

The quantitative data was analysed for its mean and standard deviation. A qualitative analysis was conducted addressing the three GAF phases: planning, implementation and assessment, as themes. The data triangulation was carried out to give meaning to the objective of the study. To maintain anonymity, the codes FGS for focus group students, M for male, F for female, and L for tutors were used. Numbers 1,2,3... were assigned to represent the participants.

Result

The GAF consisted of three phases: planning, implementation and assessment. The result is presented for each of these phases.

Planning Phase

The planning phase consists of three stages: Task setting, SWOT analysis and Assessment criteria setting.

In Stage 1, a tutor is expected to work towards making the task authentic and entail developing knowledge and social skills using the following guidelines:

- Articulate the task goals clearly;
- Plan whether a group task will be assigned as one whole task or split into sub-tasks.
    - If it is one whole task, it should be manageable, ensure collaboration, positive interdependence and align to the learning outcome.
    - If it is split, it should be dividable, manageable, ensure positive interdependence, be of the same (almost) difficulty level, and align to one of the learning outcomes. A provision for the members to collaborate must be included.
- Design the tasks considering students' time and their workload.

In Stage 2, a tutor is expected to carry out SWOT analysis to identify the internal and external factors and accordingly review the task, assessment and group dynamics using the following guidelines:

- Assess the strengths of the task, assessment and group dynamics in terms of enhancing knowledge and social skills development;
- Identify the possible weaknesses of the task, assessment and group dynamics in terms of knowledge and social skills development;
- Assess the possible opportunities of task, assessment and group dynamics in terms of knowledge and social skills development;
- Identify the possible threats of task, assessment and group dynamics in terms of knowledge and social skills development; and
- Address the constraints identified through SWOT analysis.

In Stage 3, a tutor is expected to draw clarity on what and how to assess the task by considering the following the guidelines:

- Determine the content knowledge to be assessed;
- Decide on the process (using the evidence from team meetings, participation, collaboration, contribution, interaction, conduct) to be assessed;
- Decide on the product (report, presentation, poster, exhibition, write-up and others) to be assessed;
- Plan whether assessment will be individual or group or both;
- Provide clear criteria for individual and group assessment;
- Develop (Refine) the assessment criteria. Use of rubrics is recommended;
- Decide whether the assessment will be done by the tutor or by involving students.
- If the students are involved in grading, the area they will grade needs to be clearly determined. Students should be trained to carry out the assessment;
- Award the same grade for the product of the group and individual grade for the process; and
- Award individual grade for the individual product and process, and same grade for the group product.

All the tutors informed that the tasks and rubrics for assessment were already reflected in the module descriptors. For instance, L1 said, "We did not face major issue in deciding the task as well as the rubrics as the they were already there in the module descriptor." However, the task and assessment criteria were modified to align with the GAF. The GAF required the tutors to check whether the task can be carried out wholly or split into sub-tasks, its manageability and building of social skills. All the tutors confirmed that this process was taken care in the planning. For example, L6 said, "The assessment was refined after the incorporation of the components of GAF." Another tutor L2 said, "the rubric for assessment was revisited to engage the students and to suit the need of the assignment topic."

The findings revealed that the planning phase helped all the tutors in laying the foundation for the success of the group work. They attributed the detailed planning to the success of the group work. According to L1, 'It served as an anchor for the whole process of the group work'. Further, L6 emphasised that planning was fruitful as it allowed to generate a comprehensive and detailed work plan. Similar expressions were made by other tutors.

Except for L4 and L1, not many mentioned carrying out the SWOT analysis. This was because most of the module descriptors were written by themselves and relevancy and applicability of the task was taken into consideration while developing modules. The tutors who carried out the SWOT analysis said that it helped them in weighing the merits and demerits of the task and assessment criteria.

Implementation Phase

The GAF Implementation phase consist of 7 stages: task and assessment refinement, group formation; task division, managing groups, monitoring groups, providing support, and managing internal issues.

Task and assessment refinement: All the tutors agreed that the task and assessment criteria were discussed with the students and finalised to give them the ownership. For instance, L7 said, "Every component of assignment starting from the choice of topic were decided collaboratively. Teacher asked every member of the group and ensured that each one know the assignment clearly." In some cases, students were also given a range of assignment topics to choose from (L3). All the students confirmed to it.

Group formation: The group division was not an issue as the GAF mandate of 3-6 member members consisting of diverse students were followed by all tutors.

Task division: In this stage, students were expected to sign the Team contract form (Form 1) confirming their agreement to commit to group goals, contribute in the group work, collaborate among members, conduct in an expected manner and attend to all group meetings. The quantitative data analysis revealed that students rated both the items (Table 1) in the agree category (M=4.30; SD=0.05) indicating that the team contract form enhanced their commitment to the group work.

Table 1: Team contract form

Item No	Items	Mean (M)	Standard Deviation (SD)
1	The team contract form enhances my commitment to group goals	4.32	0.05
2	The t,eam contract form make the group members get along well during group work	4.28	0.05
Total		**4.30**	**0.05**

According to the tutors, Form 1 was explained to students after which they signed it confirming their commitment. Tutors found the form enhanced students' commitment to work in the group: "my students expressed that the team contract form was interesting as well as meaningful in ensuring that they lived up to the components in the contract form. Further it also instilled in them a sense of responsibility and accountability." L2 said that the team contact form enhanced students team spirit. Similar views were echoed by the students: "The contract form seemed so legal because everybody had to discuss it and then have to sign it. We feel that after signing, it's something that we must do it. So, definitely, this form is bringing all the teams together to work together." (FGS2M2). Another student said:

The signing of team contract form helped me remain committed to group goals. This was influenced by the terms of group conduct and corporation needed to develop a master piece. The components of team contract form such as commitment, contribution, collaboration, conduct, and meeting deadline required individual effort. This allowed me to take equal responsibility as rest of the members in the group.(FGS3M1)

Managing group**:** GAF suggested to use Team meeting form (Form 2) where group members need to give the details of when the meeting will be conducted, its venue and task to be carried out. The tutors can visit any of the team meetings but it is mandatory that they at least visit one meeting.

The students rated all the items (Table 2) in the agree category (M=4.29; SD=0.04) on team meeting indicating that the efficacy of Form 2.

Table 2: Team meeting

Item No	Items	Mean (M)	Standard Deviation (SD)
1	The team meeting schedule help in smooth conduction of meetings	4.26	0.05

2	The team meeting schedule help in meeting the group work deadlines	4.42	0.04
3	Team meetings provided opportunity for group members to collaborate	4.41	0.04
4	In a group work, everyone attends all team meetings as marks are allocated for it	4.28	0.05
5	Tutors allow the group to change the dates of team meeting sometimes	4.1	0.04
Mean		**4.29**	**0.04**

All students agreed that the use of Form 2 was beneficial especially as it had slotted days and timing for the meeting which was decided by themselves. They had the flexibility of changing it when ad-hoc college programmes happen after informing the tutor (FGS2M). Students also reported that Form 2 helped the group leaders to conduct the meeting on time (FGS3M1, FGS1M1). The tutors' comments were in line with the students.

The survey findings are supported by qualitative data. According to FGS1M1, **"In the past year, we had to go from one member to another calling them for meeting. Once we have that team meeting template form, we need not have to call the member for meeting. They actually come to the designated place at the fixed time."** This was further supported by other focus groups too. Besides, students have another reason which is evident: "…I realized that it was very much effective because all the members were engaged equally. It was because they either feared that the tutor may come anytime. I noticed that the there was more cooperation than it used to before." (FGS2M) Also, they shared a copy of what they did during the meeting with the tutor (FGS3M2, FGS5F). Another reason was that marks were allotted for attending the team meeting (FGS2, FGS3, FGS4).

The focus groups reported that the use of Form 2 helped in smooth conduction of the meeting as it had planned agenda for each meeting (FGS1M, FGS5M). A student FGS4F1 said the form helped in completing the assignment on time as it the dates for carrying out each task are outlined.

Monitoring group work: Since it is not possible for an individual tutor to monitor what exactly is happening in every group, use of Team contribution form (Form 3) is suggested by GAF. It takes care of individual and group accountability, collaboration, contribution and participation in the group work.

Table 3: Collaboration

Item No	Items	Mean (M)	Standard Deviation (SD)
1	The collaboration form encourages individual accountability	4.3	0.04
2	The collaboration form encourages group accountability	4.32	0.05

3	The collaboration form encourages collaboration	4.32	0.05
4	In group work, I actively worked towards meeting the group goals	4.58	0.04
5	In group work, I consistently contributed information/ideas	4.53	0.04
6	During group work, members are sensitive to the feelings of others	3.87	0.05
7	During group work, members value others' opinion	4.24	0.04
8	During the group work, members encourage others to participate	4.21	0.04
9	During the group work, members help each other	4.33	0.04
10	In group work, everyone contributes equally to the team's progress	4.12	0.04
11	In the group work, each member gets the opportunity to share their ideas	4.43	0.04
Total		**4.30**	**0.04**

Students rated all the items (Table 3) in the agree category (M=4.30; SD=0.04) indicating that the use of Form 3 enhanced collaboration, accountability, participation, and contribution in the group work. In the interviews, all participants attributed collaboration and contribution in the group work to marks being allotted thereby enhancing individual and group accountability. For example, FGS4F4 reported, "… the Team meeting form and Team contribution form had separate marks for it which made the members mindful." The individual marking within the group discouraged free riders when FGS1F said, "There was no free rider in my group. In the collaboration form everyone's name was there. So, the marking was based on our effort. If we were absent, the marks were accordingly deducted." A student also pointed out how the form has improved group work practices as compared to previous years:

> In the past years, there were no such form. There were some people who could run away from discussion and they can manage to get the same marks by requesting their friends. But now because of this group work assessment framework, it has brought great changes where each individual can feel self-conscious and come to the group work and contribute. So, there is individual accountability. (FGS1M)

The use of Form 3 also took into consideration the group accountability. This has led to the group members to encourage and support each other (all FGS). For example, FGS3M2 said,

> If we don't encourage our teammates to work in team, then the team as a whole is going to lose the mark. Of course, the person who tend to shirk away from the task, that's going to definitely miss it, but because of his missing and then because of his failure to meet, the team is affected. So I think it encourages individual in the team to participate and at the same time we have to encourage our team member to participate in it.

All the tutors agreed that there was enhanced individual and group accountability. A

tutor L6 shared, "A sink or swim attitude was inculcated in every member through the use of the collaboration form."

The Form 3 mandates students to contribute their ideas. Table 3, item 10 (M=4.12) and 11 (M=4.43) showed that students got opportunity to contribute their ideas in the group work. A tutor L1 said, "This [contribution] was also observed during the team meetings and from the video recordings that the team leader had submitted to me". Further, each group member respected others' ideas (Table 3, item 8 {M=4.33}) which had an added advantage to shy students as evident:

I am usually timid and talk less and so on, but because of this GAF, I think, I had to share my own piece. And I think they were quite happy saying that you too have something in your mind. You could do something good. So, I think from here, they respect and we respect each other and I think we take the opinion whatever it maybe. We tend to put the point forward, discuss and if there is something worthwhile, we added. (FGS3M1)

It wasn't always that ones' ideas were accepted in the group discussion. For example, FGS2F shared:

There were times when our ideas got removed from the lesson plan. But we sat together and came up with better idea. I feel that removing the ideas was not a bad thing, because it was for the benefit of ourselves as group members. So, I believe that if one falls everybody falls, so removing the idea was not bad at all.

This was supported by L8 who said, "Looking at tension free group work, it looked like the students chose the best among the ideas." Similar views were shared by L6 and L1.

As mandated by Form 3, students agreed to supporting other members within the group. However, it was not evident whether any student dominated the discussion. Further, all tutors and most students said that they were able to meet all the required assignment deadlines though, there were few cases of not meeting some deadlines due to other assignments but it was not a major issue.

Providing support: The role of the teacher is to monitor and provide support. FGS1F said, "Teacher is just like a mediator. We can explore on our own, but if we didn't understand from the websites or other resources, we can obviously ask the teacher for help." Further, FGS5M asserted, "… whenever we feel that we are diverting away from the assignment topic, we felt like we need to submit a draft to the tutor. The tutor is always there to guide us.' Similar views were shared by all the tutors. For example, L8 mentioned, 'We discussed quite in length about how we could modify our investigation. Changes were made to improve."

All the FGS commented that tutors visited each team meetings at least once. Tutors agreed too. However, L3 reported that attending group meeting of each group was a challenge in terms of time. FGS2M suggested that tutor could visit the first team meeting as most students tend to take the team meeting lightly in the beginning.

Managing internal issues: The Implementation phase, has a guideline on how to resolve internal issues. There was no report of any kind of internal issues in this study.

Assessment

The GAF third phase is Assessment which could be carried out either by the tutors only or students and tutors together. But evidences have to be used for fair assessment. In all the modules it was found that the group work was assessed by the group members led by group leader. This along with the evidences were submitted to tutors who verified and finalized the marks.

The quantitative data analysis in Table 4 revealed that students rated all the items in the agree category (M=4.24; SD=0.04) indicating that the assessment of the group work was fair as evidences were used to support it.

Table 4: Assessment

Item No	Items	Mean (M)	Standard Deviation (SD)
1	Evaluation of group work is fair as everyone receives the grade based on one's contribution	4.12	0.05
2	For fair evaluation, we are asked to produce evidence	4.35	0.04
3	Teachers are able to find out whether all group members participate in the group work	4.05	0.04
4	Clear instruction is given on how grading will be carried out	4.42	0.04
Total		**4.24**	**0.04**

The quantitative findings were in line with the qualitative data. Fair assessment was accorded to the use of Form 2 and 3. For instance, FGS4F3 said, "The assessment through GAF is very fair because everyone is credited based on their team contribution and collaboration. There were no free riders and parasites. Everyone got their own share of marks which they truly deserved." Another student said:

> It was very much fair this time. In the previous years, many group members don't turn up for the work. Only one or two people will be working. Others were not working. They will feel much happy as they didn't work but get good marks. Others who worked were disappointed, but they will not be able to tell to the tutors. (FGS1F)

For some group it was discussed and decided who should be awarded which grade using the records of evidences maintained. However, in a couple of groups, assessment was said to be carried out by the group leader and a few other members only. According to FGS4F2, "Group leader and 2 other members were made to rate the other members. … I didn't get a chance to assess". The same student felt that the assessment was not fair and assessors were lenient. However, it was found that tutors did not accept the raw marks submitted by group leaders. This is self-evident from a student's quote:

> The Team Leaders and then members in the team were asked to justify with the evidence recorded by the team leader. At the same time, the evidence and the task that we have contribution has to be shared as proof to the tutors during the

assessment. So I think it's fair. …I am so satisfied that the marks that we have acquired is satisfactory because the assessment is as per the evidence. (FGS3M2)

Tutors also confirmed that they do not accept the marks given by the group leader as it is. The tutor discusses with the group leader and in some cases with the individual students and award marks based on the evidences provided.

GAF efficacy

All the participants were of the opinion that the GAF was effective in ensuring all group members to participate, collaborate and contribute in the group work. They cited that the individual and group assessment based on evidences made the assessment fair. Many students recommended to use GAF in other modules. This is evident from the following quotes:

Amongst the many group work that we have done and is still doing in other modules, I think this GAF was one of the best strategies that I have found till now. It allows the members to work hard and the responsibility is given to each and every member. (FGS3F1)

I would fully and truly encourage to use GAF in other modules as well. This is so because, GAF helps to have a fair and just assessment of the work. It would help to accelerate team collaboration, contribution of knowledge, commitment to group task and conduct the team work in harmony by everyone, without leaving anyone behind." (FGS4F3)

… through this years' experience, we came to know that everyone was serious about the group discussions, unlike the past years. In the past years, most of the group members did not participate in discussion. Only one to two people worked during the group discussion as well as the presentation. But this time I can see the seriousness. (FGS2M)

A lone tutor L7 commented that few students found it burdensome. A student agreed that some members find it time consuming but said it is a new concept which is more professional:

It seems difficult because this is new, and we have never done such meetings just to produce a package of the task. We have never met in such a meeting in any group discussion before. This makes us to meet again and again. So this may be the reason behind some people making noise that is time consuming and workload is more. But after getting used to it, I think it seems very professional. It's learning in a community, team work, accepting rejection, respecting others views, coming to the consensus. I think that's okay. (FGS3M2)

On whether there are any components of GAF that need to be revised, all the participants were of the opinion that they have no suggestions. They also said that it is a new concept and suggested to keep it as it.

Discussion

In this section, the findings are interpreted in relation to existing literature

Phase 1: Planning

To encourage positive interdependence and collaboration among members, Utha and Tshering (2021) recommended to plan the task thoroughly. The study findings showed that the tutors did not have to carry out task and assessment criteria setting as it was already reflected in every module descriptor but modification was required to align it with the GAF. The task alignment encompassed checking whether the task

- could be carried out as a whole or split into sub-tasks,
- was manageable,
- ensures collaboration and positive interdependence to build social skills.

The alignment of assessment rubrics required inclusion of Form 2 and Form 3 which helped to lay the foundation for the success of the group work. This was reported to be missing in the study by Utha and Tshering (2021) where the task was divided into parts with each member working on a part only resulting in select learning and minimal collaboration. The findings on detailed planning resulting in successful completion of group work is in line with the literature findings (University of Wellington' 2004; Davis, 2009; Delvin, 2004).

A SWOT analysis as part of GAF was not carried out by many tutors as it was part of module development and most of the module descriptors were developed by the tutors themselves. A couple of tutors have carried out the SWOT analysis which helped them to work on any related issues.

Phase 2: Implementation Phase

A tutor's job does not end by just setting the task and assessment criteria. It is important to include students in reviewing the task and assessment criteria so that they take the ownership to carry the task. According to Mellor (2012), the group work task and assessment should be explicitly made clear to students so that they are clear on the expected outcomes. The present study reported that the assignment task and assessment criteria were discussed with the students before finalizing.

Group formation was carried out as per the GAF requirement of 3 to 6 members in each group. The study did not find any issues on it.

The study revealed that as part of task division stage, students signed the Team contract form confirming their agreement to commit to group goals, contribute and collaborate among members, conduct in an expected manner and attend to all group meetings. In general, all participants agreed that the Form 1 enhanced students' commitment to work in the group. There were examples of enhanced team spirit, seriousness and commitment to the work, and enhanced individual and group accountability. The tutor found it easy to guide and monitor the students.

According to Utha and Tshering (2021), students had difficulty submitting the completed assignment on time. However, this wasn't an issue in the present study. It was found that the successful completion and submitting of the task on time was attributed to three

reasons: a) the Team meeting form which had detailed meeting schedules and task to be carried out during each meeting drawn up by the members considering their other commitment; b) the tutors had a copy of the meeting schedules which allowed them to visit any of the meetings ad hoc; and c) the team meeting attendance and participation was allotted marks. This took care of the individual accountability. This is in agreement with Wilson et al. (2018) where proper planning and preparation resulted in students being attentive of their individual role and responsibilities within the group.

University of New South Wales (2020) suggested monitoring students group work through observation, listening or asking questions to find members participation, respect for others and group function. This is in agreement to the current study where tutors attended at least one team meeting to monitor group work.

Literatures have reported teachers and students raising concerns on the free riders getting good marks because of the effort put in by some other students (University of Wollongong, 2002; Delvin, 2004; Šeric &Praničević, 2018; Forsell, et al.,2020; Utha & Tshering, 2021). It was found that the use of Team contribution form in the present study enhanced students' collaboration, accountability, participation, and contribution in the group work. There was hardly any report of free riders. Marks were also allotted for the team contribution enhancing individual and group accountability which was based on the meeting minutes, record of evidences and active participant. This is in line with the other studies (Brooks &Ammons, 2003; Goldfinch, 2006; Strom & Strom, 2011; Murray &Boyd, 2015). It was further found that the Team contribution form had an added advantage to timid students as it mandated every individual to share their ideas and opinions. However, it did not result to every idea being accepted. The group weighed the pros and cons before deciding to accept or reject it which made all the students feel included. Overall, the students' learning enhanced as no one was left behind. Each individual was expected to contribute one's ideas.

Phase 3: Assessment

Assessment plays an important role in making any assigned task effective. Siddiqui (2017) described four essential attributes of an effective assessment: a) communication between teacher and students regarding the expectation and requirements for the assessment; b) both teacher and students must be fully familiar with the assessment criteria; c) embedding assessment within the learning experience; and d) constant evaluation of the assessment. In line with Siddiqui, it is found that the present study has taken care of all the attributes in the planning and implementation phase.

Further, Shermin, et al. (2019) argued that in group assessment, fair opportunities should be provided to all members to demonstrate their knowledge at individual as well as group level. In this study, the Form 2 and 3 mandated each group member to collaborate and contribute their ideas. There was no mention of any member dominating the group discussion. In fact, ideas shared were thoroughly discussed to check for its relevancy to the assigned task before being accepted or rejected.

The giving of marks based on students' contribution and participation is in line with the suggestion made by CAD (2013) that individual accountability needs to be considered while giving marks. It was found that the marking was carried out by the group members led by group leader based on the evidences which was verified and finalized by the tutors. This

practice will have long term positive impact on students as they will get to understand the process of assessment and improve assignment writings in future.

The study found that in most cases, all group members decided on the member's marks using the evidences. However, in some cases the marks were decided by the group leader and a couple of members which could be unfair. But it was found that tutors did not accept the marks provided by the group members on face value. In fact, they used the evidences and consultation with individual members to finalize the marks. This finding on using evidences to give marks is in line with Forsell, et al (2020) and Delvin (2004).

GAF efficacy

The GAF was developed to achieve the intended learning outcomes in a positive and collaborative learning environment. The three phases of GAF embed use of 3 forms that intends to enhance students' knowledge and develop social skills. All the participants opined that the GAF ensured all group members to participate, collaborate and contribute in the group work. They also cited that the individual and group assessment based on evidences made the assessment fair and recommended to use it in other modules. There was no suggestion to revise any components.

Conclusion

Group work offers a collaborative learning environment making students responsible for their own learning. It helps in enhancing students' content knowledge and develops social skills. However, poor attention on task design and assessment process may lead to increased free riders. The proposed Group work Assessment Framework consist of a detailed roadmap of planning, implementation and assessment with specific guidelines.

The success of the group work depends on the task and assessment design. Tutors were not required to set a new task and assessment criteria as it was already reflected in every module descriptor. However, they had to modify it to make it authentic in terms of knowledge building and developing social skills. The task and the assessment criteria were discussed with the students before finalizing.

In the implementation phase, the signing of the Team contract form enhanced students' commitment to work in the group making it easy for the tutor to guide and monitor the students. The successful completion and submitting of the task on time was attributed to the Team meeting form as (a) it had scheduled dates and place for the meeting, and task to be carried out during each meeting; (b) the tutors could visit any of the meetings ad hoc; and (c) the meeting attendance and participation was allotted marks. Though the tutors had the flexibility to attend any of the meetings, students suggested if tutors could visit the first team meeting also to enhance the seriousness in the group work right from the beginning.

The assessment of the group work was made fair by the use of Team contribution form. The form provided opportunities to all group members to demonstrate their knowledge at individual as well as group level enhancing individual and group accountability. Evidences in the form of meeting minutes, meeting attendance, recordings, student consultation and others were used to give the marks.

The GAF was found to be effective in ensuring all group members participate, collaborate and contribute in the group work. In fact, it was recommended to be used in other modules.

Recommendation

Based on the study findings, the following recommendations are proposed:
- The research findings, may provide empirical base for policy directives for the colleges of RUB to make informed decisions on implementation of GAF to enhance students' learning.
- The GAF could be adapted and implemented by other higher education colleges and schools.
- A study may be carried out after a few cycles of implementation for any revision in the GAF.

References

Brooks, C. M., & Ammons, J. L. (2003). Free riding in group projects and the effects of timing, frequency, and specificity of criteria in peer assessments. Journal of Education for Business, 78(5), 268-272.

Burke, A. (2011). Group work: How to use groups effectively. Journal of Effective Teaching, 11(2), 87-95

Davies, W. M. (2009). Group work as a form of assessment: Common problems and recommended solutions. Higher Education, 58(4), 563-584.

Delvin, M. (2004). Assessing group work. Assessing learning in Australian universities: Ideas, strategies and resources for quality in student assessment. Australian, Universities Teaching Committee.

De Vita, G. (2001). The use of group work in large and diverse business management classes: some critical issues. International Journal of Management Education, 1, 26-35

James, R., McInnis, C., & Devlin, M. (2002). Assessing learning in Australian universities: Ideas, strategies and resources for quality in student assessment. Australian, Universities Teaching Committee.

Dommeyer, C. J. (2007). Using the diary method to deal with social loafers on the group project: Its effects on peer evaluations, group behavior, and attitudes. Journal of Marketing Education, 29(2), 175-188.

Elgort, I., Smith, A. G., & Toland, J. (2008). Is wiki an effective platform for group course work?. Australasian Journal of Educational Technology, 24(2).

Ferguson, K., & Candy, S. (2014). A participatory design handbook. Retrieved from http://kateferguson.org/documents/Participatory-Design-Handbook.pdf

Forsell, J., Forslund Frykedal, K., & Hammar Chiriac, E. (2020). Group work Assessment: Assessing Social Skills at Group Level. Small Group Research, 51(1), 87-124.

Freeman, M., & McKenzie, J. (2002). SPARK, a confidential web–based template for self and peer assessment of student teamwork: benefits of evaluating across different subjects. British Journal of Educational Technology, 33(5), 551-569.

Goldfinch, J. (2006). Further development in peer assessment of group projects. Assessment &Evaluation in Higher education, 19, 29-35. Doi: 10.1080/026093940190103.

Hammar Chiriac, E. (2014). Group work as an incentive for learning–students' experiences of group work. Frontiers in Psychology, 5, 558.

http://kateferguson.org/documents/Participatory-Design-Handbook.pdf

Jungk, R., & Müllert, N. (1987): Future workshops: How to create desirable futures. Institute for Social Inventions.

Kensing, F., & Greenbaum, J. (2012). Heritage: Having a say. In Routledge international handbook of participatory design (41-56). Routledge.

Mellor, T. (2012). Group work assessment: some key considerations in developing good practice. Planet, 25(1), 16-20.

Murray, J. A., & Boyd, S. (2015). A preliminary evaluation of using WebPA for online peer assessment of collaborative performance by groups of online distance learners. International Journal of E-learning &Distance Education, 30, 112-124.

Noonan, M. (2013). The ethical considerations associated with group work assessments. Nurse Education Today, 33 (11),1422-1427.

Rance-Roney, J. A. (2010). Reconceptualizing interactional groups: Grouping schemes for maximizing language learning. English Teaching Forum, 48(1), 20-26. Retrieved on 2 June 2023 from http://americanenglish.state.gov/files/ae/resource_files/10-48-1-d.pdf

Sajedi, S.P. (2014). Collaborative summary writing and EFL students' L2 development. Social and Behavioral Sciences, 98, 1650-1657.

Šerić, M., & Garbin Praničević, D. (2018). Managing group work in the classroom: An international study on perceived benefits and risks based on students' cultural background and gender. Management: Journal of Contemporary Management Issues, 23(1), 139-156.

Shermin, A., De Silva, B., & Wesumperuma, A. (2019). Group work Assessment Development (GAD): A framework for developing an effective group work assessment.

Siddiqui, Z. S. (2017). Framework for an effective assessment: From rocky roads to silk route. Pakistan Journal of Medical Sciences, 33(2), 505–509.

Spinuzzi, C. (2005). The methodology of participatory design. Technical Communication, 52(2), 163-174.

Strom, P. S., & Strom, R. D. (2011). Teamwork skills assessment for cooperative learning. Educational Research and Evaluation, 17, 233–251. doi:10.1080/13803611.2011.620345

University of New South Wales. (2020). Facilitating and monitoring group work. Retrieved on 2 June 2023 from https://www.teaching.unsw.edu.au/facilitating-and-monitoring-group-work

University of Wellington. (2004). Group work and group assessment. Retrieved on 15 June 2021 from https://www.wgtn.ac.nz/learning-teaching/support/approach/guides/group-work-and-assessment/group-work-assessment.pdf

University of Wellington. (2013). Group work and group assessment. Retrieved on 17 June 2021 from https://www.wgtn.ac.nz/learning-teaching/support/approach/guides/group-work-and-assessment/group-work-assessment.pdf

University of Wollongong, (2002) Code of practice - Teaching & assessment http://www.uow.edu.au/about/teaching/teaching_code.html#group. Accessed 26th May, 2021.

Utha, K., & Tshering, T. (2021). Effectiveness of group work in the Colleges of Royal University of Bhutan. Bhutan Journal of Research and Development, 10(2). DOI: https://doi.org/10.17102/bjrd.rub.10.2.007

Van der Velden, M., Mörtberg, C., Van den Hoven, J., Vermaas, P. E., & Van de Poel, I. (2014). Participatory design and design for values. Development, 11(3), 215-236.

Wilson, K., Brickman, P., & Brame, C. (2018). Group work. Life Sciences Education, 17(1). Doi 10.1187/cbe.17-12-0258

About the author

Dr. Karma Utha is an Assistant Professor at Samtse College of Education. She teaches modules on Physics, Assessment, Research, and Teaching methods. She is engaged in supervising master-level dissertations. Her research interests are in assessment, pedagogical practices, policy, and STEM.