

# Student Group Projects: Perspectives of Higher Education Students

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## Abstract

Group projects form a component of the work undertaken to assess undergraduate students for the award of degrees. This study sheds light on students' experiences on group projects. Based on a self-reported survey of a convenience sample of 350 undergraduate students drawn from 926 final year students of the college of education of one public university in Ghana, this paper explores students' engagement practices during group projects. The findings suggest that although students work collaboratively on their projects and are able to handle conflicts and communication problems that arise during group work processes 'free riding' is not non-existent, albeit minimal. Students noted the scheduling of group meetings and assessment of group work as challenges encountered in group projects. The study recommends that students need support on group dynamics, and the assessment of group project needs to be reconsidered to reward individual members in groups at the formative stages of the task in order to optimise students' experience of this form of assessment.

**Keywords:** Group projects, student engagement practices, assessment

## 1. Introduction

A student-centred learning environment has long been endorsed as best practice, and the importance of group work in enabling students to negotiate and share ideas with other group members has long been recognised by educators. Numerous disciplines use various academic activities that oblige students to meet as a group and contribute to a final product to promote student engagement in active learning and the discovery and sharing of knowledge (Dimock & Kass, 2008; Hassanién, 2007; Sweet & Svinicki, 2007). Grounded in the social constructivist approach to learning (Vygotsky, 1978), students learn as they reflect on their own experiences with others. For the benefit of this study, group work is defined as a collaboration of two or more individuals working on a task who are jointly responsible for the final results. Group tasks require all members to actively work on and participate in the development of the final product.

The potential benefits of group work noted in the literature can be categorised as academic, social, and practical. Academically, students can explore and develop problem solving processes, broadening their perspectives and expanding their critical thinking skills through deep consideration of other perspectives (Noonan, 2013; Gagnon & Roberge, 2012). The social benefits include self-discovery through interaction with others which is useful in developing social knowledge linked to meaningful value systems (Sedgwich, 2010), development of a greater awareness of group processes and group dynamics (Cartney & Rouse, 2006; Payne, Monk-Turner, Smith & Sumter, 2006), and relationship building vital to effective student integration, especially in a mass higher education environment which can be alienating (Noonan, 2013). The practical advantage of group work is that students can cover large areas of content efficiently while building on previous experiences to advance their skills (Jackson et al., 2014). Sedgwich (2010) and Vernon (2010) observe that many aspects of team work within a professional work environment can be replicated by group work in an academic setting. Learning to work with others as part of a group and assessing one's own group work performance are critical professional skills.

Although group work enables opportunities for learning, authors across multiple disciplines acknowledge they are not without challenges (Wooley, Malone, & Chabris, 2015; Huang, 2014; Sevenhuysen et al., 2014; Tomocho & Foels, 2012; Taylor, 2011). Some challenges identified in the literature are competing schedules and priorities, the frustration of managing diverse schedules, the problem of scheduling work sessions, conflicts with members of the group over how to fairly divide tasks, disagreements about the content of the work, disagreements about the level of quality group members are aiming for and the issue of unequal distribution of work actually accomplished by group members. The non-contribution or limited input by uncommitted individual members in a group referred to as 'free-riding' is a problem noted in group work (Freeman & Greenacre, 2011). Perry (2008) describes 'free-riders' as students assigned to a group who benefit from the work of the group but who do not contribute or do not contribute to the level required to complete the project. 'Free-riding' may result in resentment which may lead to interpersonal conflicts undermining otherwise positive experiences, especially when assessment is involved. This can result in motivational issues which might result in individuals reducing their own input to the task, being wary of committing their energy and effort to a project where the credit for it is shared with other, less deserving group members (Cleford 2007; Chapman, Meuter, Toy, & Wright, 2006). They observe that some group members respond to others' 'free-riding' upon their

efforts by ‘free-riding’ themselves, while some may even choose to fail as a group rather than be sucked into ‘free-riding’.

When talking about group size, Halverson and Tirmizi (2008) note that the larger the group, the smaller the effort expended by group members and consequently the greater the likelihood of ‘free-riding’. They indicate an inverse relationship between the size of a group and the degree of a group member’s individual contribution to the accomplishment of the task. Group size matters and the size of groups are critical for effective group work. Halverson and Tirmizi (2008) categorise the challenges to effective group work under relationship-related conflict caused by attitudinal problems such as dislike, mistrust and lack of cohesion, and task-related conflict that may result from a clash of opinions with respect to the task such as adhering to timelines or different attitude towards deadlines. They reiterated the need for groups to effectively handle conflicts and communication problems that arise in group work processes. Communication in this context refers to the ability to collect and disseminate necessary information related to the product of group work which Chapman (2006) observes plays a significant role in how group members organize their work and cooperate with one another. Mellor and Entwistle (2010) concur and note that a well-functioning group communicates effectively and identifies clear roles. Harris, Krause, Gleeson, Peat, Taylor and Garnett (2007) however point out that the challenges of conflict and communication in group work can be mitigated when group membership is self-selecting as students get to choose on the basis of friendship or choose to join with students who are recognised as high achievers or having complementary skills.

Another challenge is the potential for unfairness in assessing group work. In group work, the work of the individual is not easily identified because it is lost in the product of the group. Various authors point out how non-performing group members or ‘free riders’ tend to benefit from group summative assessments (GSA) at the expense of hard working group members. (Shiu, Chan, Lam, Lee, & Kwong, 2012; Foreman-Peck, 2010; Mellor & Entwistle, 2010; Almond, 2009; Nordberg, 2008). The literature however identifies periodic reviews of group/individual contributions to the project, the assignment of individual as well as group grades and peer assessment of group members’ contribution as mechanisms for dealing with the issue of “free riding”. Shiu et al. (2012) and Sedgwich (2010) suggest that the opportunity to assess group member’s contributions to the project can increase students' sense of responsibility by giving them control over their own learning, encourage them to think about the values and the ethics of their work, enhance participation and involvement in the group which may contribute to a lower incidence of free-riding, and promote team dynamics and learning within group work. While recognising the value of Shiu et al.’s (2012) and Sedgwich’s (2010) views, I concur with Shiu et al. (2012) that marks from peer evaluation are a good way to receive constructive peer input. However, there is the danger of peer bias as some peers may not separate personal feelings from the evaluation. Consequently, grades derived from peer assessment should not be weighted unduly to influence the grade earned. The insights of Ohaja, Dunlea, and Muldoon (2013) that peer assessment might not always be constructive in grading student work and can contribute to a hostile environment that promote rivalry among students are shared by many educators. Peer assessment should not excuse the responsibility of the supervisor to evaluate the work of the group. It could be merely informative, advising the supervisor who then makes the summative assessment.

## 2. Context

While there are extensive examples of assessed group work in higher education institutions which provide opportunities for cooperative and collaborative learning, student research projects were individual affair. However, over the past two decades, growing student numbers in universities in Ghana have created pressure for more efficient methods of teaching and especially on marking papers. Consequently, universities have turned to undergraduate research projects which require students to work in groups. At the university of Cape Coast, final year undergraduate students are expected to undertake group research projects. Students work in groups of three or four and group membership is self-selecting. There have been instances where students had approached their supervisors privately to express dismay and to draw their attention to individuals ‘free-riding’ on the back of their group members. In the context of this study, and to the best of my knowledge, no study has been done on student engagement practices during the process of undergraduate group project at the university of Cape Coast. The purpose of this study therefore is to explore how students experience the process of group project during their undergraduate studies, specifically to assess the impact of group project on student engagement. An understanding of how students experience group work prior to completion of their group project will give an insight into group work practices that might help build upon existing knowledge to enhance group work processes. Strengthening student group work learning will prepare them for the complex demands of their future professions. Research questions that direct this study are:

1. What are students’ engagement practices in group projects?
2. What are some of the challenges encountered by students during group projects?
3. How are students assessed on group projects?

### 3. Method

A survey design was used to enable the researcher to generalise from the sample to the population so that inferences can be made about their behaviour. Descriptive surveys allow the researcher to assess thoughts, opinions, and feelings as well as analyse behaviour of the population from which the sample is drawn (Shaughnessy, Zechmeister, & Jeanne, 2011), and was therefore considered appropriate for this study. The population for the study was 926 final year education students in the University of Cape Coast engaged in group projects. Participants were selected through the convenience sampling procedure. With the help of research assistants, group members who had come to submit their completed work to the departments were requested to complete the questionnaire. Participants who were available within the week during the administration of the research instrument automatically formed part of the sample. Participation was voluntary. Respondents were asked to indicate their level of engagement on a 5-Point Likert Scale with the options of Never (N), Rarely (R), Sometimes (S), Often (O) and Always (A). Open-ended items enabled respondents to reflect on challenges encountered during group projects and to explain how group work is assessed. A total of 350 respondents participated in the study. Data was analysed using the Statistical Package for Service Solution (SPSS) version 22. The mean was used to determine respondents' level of engagement on each item on the questionnaire. The standard deviation provided information on the congruence of the responses given by the students. The open ended questions were analysed using the constant comparison method (Glaser & Strauss, 1967). Responses to the items were read to gain an overall sense of the data. The data was then read again and 'open-coded' to produce an initial code list. This was then selectively coded in terms of categories related to the aims of the study.

### 4. Findings and discussion

The majority (51%,  $n= 179$ ) of respondents were male students while 49% ( $n= 171$ ) were female students. The results are discussed in line with the research questions:

#### 4.1. What are students' engagement practices?

Group tasks require all members to actively work on and participate in the development of the final product. Table 1 presents students' reported engagement practices during group work.

**Table 1: Student engagement practices**

Statement	M	SD
I attends all group meetings	4.08	.98
I communicate well with other members of the group	4.17	.97
I worked with others as a team in the collection of data	4.08	1.05
I did not contribute much to the group's work	1.43	.98
I participated in discussions and gave constructive feedback	4.14	.98
I was open to ideas from other group members	4.24	.89
I researched and submitted quality work	4.09	.95
We shared tasks and I was a productive group member	4.19	.94
We clarified who is going to do what	3.91	1.08
We clarified when each task is to be done	3.93	1.00
We kept to agreed procedures	4.08	.95
We listened to each other's ideas	4.43	.82
We checked on progress of group members	3.61	1.25
I shared responsibility for the group project	3.64	1.19
I contributed equally to the group's progress	3.94	1.12
We followed agreed procedures for writing	4.26	.96

A standard mean of 3.0 shows that students sometimes undertake the group activities stated. A mean below the standard mean shows that students rarely/never undertake such activities and a mean above the standard mean shows that students often undertake such practices. Students often attended all meetings (mean = 4.08, SD = .98), an indication that they realise the importance of attending group meetings. An important aspect of group work is how students interact and work together to achieve the objectives and learning outcomes of the group's assignment. Students noted that they communicate well with other members of the group (mean = 4.17, SD = .97), and listen to one another (mean = 4.43, SD = .82). Listening and communication are key attributes of successful interaction, and if members of a group exhibit these skills, working as a group is bound to be successful. Factors such as intra-group communication, organisation of group roles and time control are frequently cited as reasons for good teamwork which, if absent, affects the effectiveness of team work. With good communication skills, members of a group can work as a team to achieve the group's objectives (mean = 4.08, SD = 1.05). Working as a team implies the opportunity to discuss ideas, listen to other students' views, explore and develop problem solving processes. The exposure of students to different viewpoints is identified as one of the benefits of group projects as a well functioning group communicates effectively (Mellor & Entwistle,

2010; Chapman, 2006). It is comforting to note that ‘free-riding’ or respondents who do not actively participate in their group’s work are minimal (mean = 1.43, SD = .98). This sounds good as failure on the part of a group member to participate in the work of the group might stir up resentment which may lead to interpersonal conflicts which can undermine the groups’ efforts. Perhaps, the self selection of group membership suggested by Harris et al., (2007), which allows students to choose members they know are reliable, has kept ‘free-riding’ in check. It could also be that group members tolerate ‘free riders’ out of peer loyalty or they simply do not want to betray non performing members of the group. However, the finding that students contribute equally to the group’s progress (mean = 3.94) triangulates the response that students do not contribute much to the group’s work (mean = 1.43). This shows that generally, students take active roles in developing their group’s product or achieving the group’s objective.

Respondents participate actively in discussions and give constructive feedback (mean = 4.14, SD = .98); were open to ideas from group members (mean = 4.24, SD = .89); followed agreed procedures in writing (mean = 4.26, SD = .96); and kept to agreed procedures by the group (mean = 4.08, SD = .95). The responses show that students worked as a group. Working as a group and following group processes is important to the success of group work (Cartney & Rouse, 2006; Payne et al., 2006). Failure to contribute to group work processes might affect other members of the group and the final result. The indication that students actively participated in group discussions, were open to ideas from group members and kept to agreed procedures by the group is likely to make group members productive (mean = 4.19, SD = .94).

One of the crucial aspects in group work management is the ability of all group members to effectively undertake and stimulate activities aimed at the final product of the group, and to uphold the group work process. The results show that group members often clarified who is going to do what (mean = 3.91, SD = 1.08) and when each task was to be done (mean = 3.93, SD = 1.00); check on the progress of each other in the group (mean = 3.61, SD = 1.25). Students’ perception of the importance of cooperation and collaboration is related to group success and the coordination of efforts to reach disciplinary synergy. If group members indicate they contribute equally to team progress (mean = 3.94, SD = 1.12), that implies that groups often shared responsibility for the team project (mean = 3.64, SD = 1.19), which most likely result in the submission of quality work (mean = 4.09, SD = .95). The high variability (SD = 1.25) in the responses, however, indicate that the respondents were not on the same level in their responses.

#### *4.2. What are some of the challenges encountered by students during group projects?*

Notable among responses is the challenge of scheduling group meetings (85%). Assignments require time outside of class, and competing schedules and priorities may lead to the frustration of managing diverse schedules as noted by Wooley, Malone, and Chabris (2015); Huang (2014); Sevenhuysen et al. (2014); Tomocho and Foels (2012); and Taylor (2011). Respondents also noted the potential for time wasting and unproductive meetings caused by arguments that arise when some members of the group try to dominate others or want things done their way (28%), which leads to relatively little work accomplished at the end of the meeting. One of the challenges of group work is the possibility that an individual student’s beliefs, value-perspectives and views may be suppressed within the group (Chapman, 2006). In order to develop groups that are truly collaborative, all members of the group need to feel that they can discuss any issue and that the members of the group would recognise the importance of learning from different perspectives.

As Mellor and Entwistle (2010) observe, a well-functioning group communicates effectively and Halverson and Tirmizi (2008) suggest that a group that communicates effectively has the ability to handle any conflicts and communication problems that arise. With only 6% of respondents suggesting that some members ‘free-ride’ and do not contribute much to the group’s work, one can say that group members are able to handle problems that arise during group processes. As noted earlier on, this might be as a result of the self-selection of group members which allows students to choose peers they know they are comfortable with and can work with, thus the low rate of reported ‘free-riding’. Respondents expressed dissatisfaction with their group project assessment and concur with Foreman-Peck (2010) and Mellor and Entwistle (2010) that assessment of group work should be fair and be seen to be fair.

#### *4.3. How are students assessed on group projects?*

The majority (87%) of respondents said they were graded based on summative assessment of the group’s work. By implication, students were allocated a mark based on the final assignment submitted regardless of the individual’s effort or input into that assignment. The other 13% said their supervisors informed them they would be assessed formatively during appointed discussion meetings with them. This means that for the majority of respondents, what they get is a group grade, with their individual contributions to the work being lost in the product of the group. This raises the issue of fairness noted by Shiu et al. (2012); Foreman-Peck (2010); Mellor & Entwistle (2010); Sedgwich (2010); Almond (2009); and Nordberg (2008) who suggest the need to reward the individual’s contribution to the process of the project as well as the outcome of the project. Giving all students



the same grade does not recognise the input of individual members of the group and might create the danger that some group members who might not participate in the planning and implementation of the project are awarded the same group grade. The literature suggests the recognition of the individual's effort and allocation of marks for both individual and group contributions to the project as a solution. Peer assessment where group members are allowed to evaluate one another's contributions anonymously is also recommended if grades are moderated by the lecturer to ensure fairness and consistency across groups (Shiu et al., 2012).

## 5. Conclusion and recommendations

Group work is an integral part of courses in Higher Education Institutions. In education, group assignments have been used as a method to enhance learning outcomes. The findings suggest that students work collaboratively on their projects and are able to handle conflicts and communication problems that arise during group work processes. 'Free-riding' is minimal albeit not absent. This suggests that there are some challenges and students require support to optimise their experience of this form of assessment. A discussion with students on member participation, especially failure to participate and information on group dynamics and dealing with challenges that arise when undertaking group work may assist students to optimise their experience. Other issues that require consideration is how marks is assigned for the assessment of group projects to ensure a fair assessment process. Departmental discussions on these issues might lead to collective approaches that would optimise learning in group work.

This study's findings are not without limitations. The study is based on one College within a single institution and findings may be peculiar to it and the student population it serves. As with survey research on social behaviour, there may be a social desirability effect as respondents may exhibit a tendency towards answering in ways that are meant to be consistent with their perceptions of the desirability of certain kinds of answers. Consequently, there may be a gap between how people say they behave and how they actually behave.

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