

A CASE ANALYSIS OF STUDENT PROJECT GROUPS TO ILLUSTRATE A MODEL OF GROUP BEHAVIOUR

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ABSTRACT

In this paper, the dynamics and functioning of ten student project groups will be subject to qualitative analysis. The purpose is not to develop or test theory. Rather the paper uses a case study situation to illustrate the complexities of group functioning. This illustration is achieved by applying an existing model of groups as a means of organising and structuring the case analysis. The model is the group behaviour model presented in one of the major Australian organisational behaviour texts (Robbins, Millett, Cacciope & Waters-Marsh 1998). The paper, therefore, is a useful one for explaining how this particular model can be applied in practice.

The main points are that although models such as this one can be helpful in explaining observed behaviour of groups, they do not necessarily always successfully predict behaviour. Rather, they seek to capture complexity, hence the diversity of group experiences documented in this paper. The main factors that appeared to influence the success of the groups were imbalances in group demography leading to conflict, and group member ability. At a practical level, the paper may provide a useful lesson for educators interested in student group functioning, and has some implications for managing diverse work groups.

INTRODUCTION

Groups are a natural part of any work organisation and may be used with students in university teaching environments as well, particularly in business courses (Anderson & Moore 1998). One motivation for using groups in a work organisation is higher performance outcomes (Wageman 1997), whereas in university teaching one of the precipitating factors may be to give students some introduction to the experience of working in groups (Anderson & Moore 1998). This paper is about how a model of the process of work groups that is taught in organisational behaviour (OB), can be applied to student project groups, to illustrate the theory on which the study of groups is based.

In this paper the group behaviour model (Robbins et al. 1998) is used to examine and organise the discussion of case study material arising from student project work. The purpose is to illustrate the

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complexity of group functioning, and the utility of this model for organising the many variables associated with group functioning. Also of interest is how business students experience working in groups. According to Bettenhausen (1991), findings from student groups can generalise to organisational settings, so some limited comments will be made at the end of the paper regarding the implications of this study of student groups, for work groups.

Although the paper is generally qualitative in nature, it still utilises the standard structure of academic papers, that is, introduction or literature review, method, results, and discussion (Brown 1996), in order to provide a logical flow to the analysis. The paper draws on the group behaviour model as it is presented in Robbins et al. (1998). Readers should refer to this text for further information on the model, including the list of primary sources from which the model was compiled by Robbins and his associates.

THEORETICAL BACKGROUND

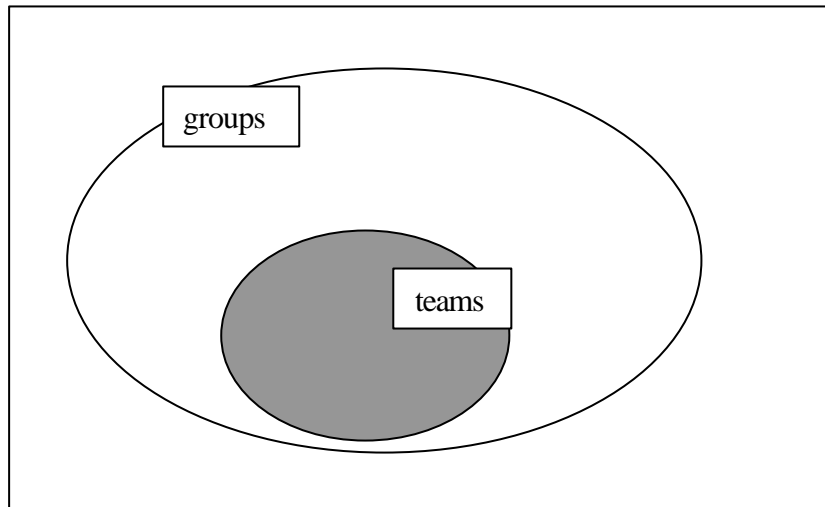
OB theorists have studied work groups for many years, with perhaps some of the earliest, and well-known research being the Hawthorne studies. This series of studies, conducted in one organisation, was one of the first attempts to look at groups at work, and particularly relationships between employees (Wood, Wallace, Zeffane, Schermerhorn, Hunt & Osborn 1998). More recently, the focus has been on work *teams*, with teams being envisaged as more desirable forms of work groups (Wiesner, http. 1999). Work groups can be broadly defined as formal collections of two or more people, who are interacting and interdependent, with a view to achieving particular task objectives (Robbins et al. 1998). For the purpose of this paper, teams are defined as a particular type of work group, characterised by:

- a greater degree of individual commitment towards the goal or task
- the welfare of the team being placed over the welfare of the individual
- more cohesiveness among members (Robbins et al, 1994).

Therefore, according to these definitions of groups and teams, all teams are groups, but not all groups are teams. This distinction is illustrated in Figure 1.

As noted at the outset, work groups and teams are of particular interest in the current business environment. They are also the second of the three substantial building blocks that form the foundation of OB as it is currently taught to tertiary students (Robbins et al. 1998; Wood et al, 1998). The three building blocks are the individual, the group, and the organisation.

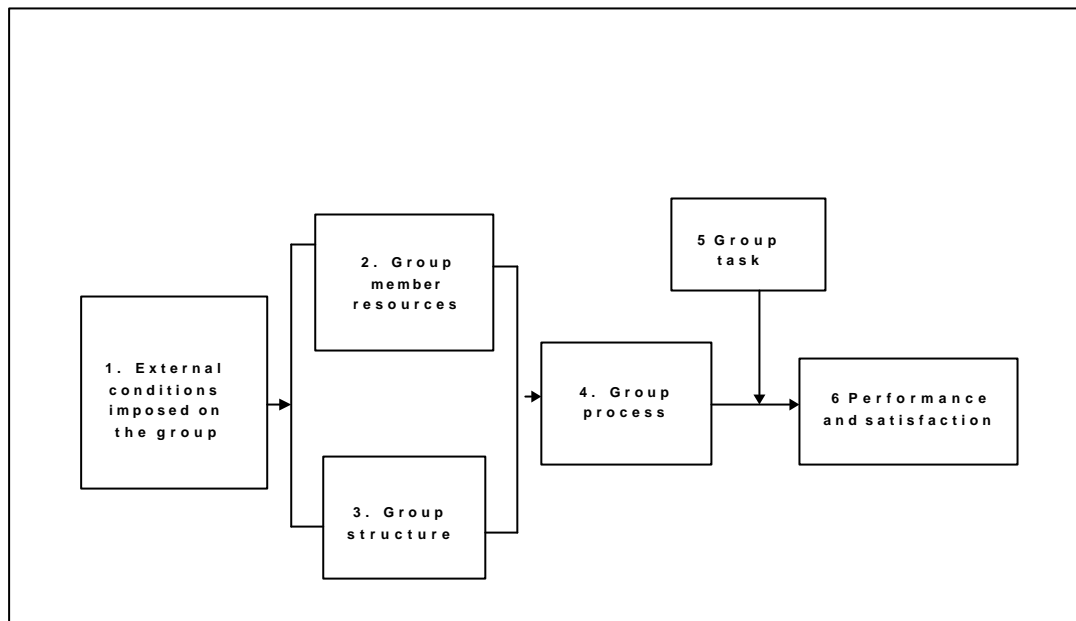
Figure 1
Teams as a subset of groups



Also of interest in this paper is how students themselves experience working in groups. That is, how the experience of groups serves as a vehicle for business students to learn about the theory of groups, and see the connection between theory and practice in this particular building block of the subject.

The model employed in this paper is the group behaviour model (Robbins et al. 1998), depicted in Figure 2. The first box in the group behaviour model represents the *external conditions* imposed on the group, where the group of interest is seen as part of a larger organisational system. Ten factors constitute these external conditions, including organisation strategy, culture, resources, technology, authority structures, formal regulations, personnel selection procedures, performance evaluation and reward systems, union influence, and physical work setting (Robbins et al. 1998).

Figure 2
The six-box, group behaviour model



Source: Robbins, S.P., Millett, B., Cacioppe, R. & Waters-Marsh, T. 1998 *Organisational Behaviour: Concepts, Controversies and Applications*, 2nd ed., Prentice Hall, Sydney, p 312.

In this paper, which describes student projects in a tertiary institution, the university's authority structures, formal regulations, selection procedures, and performance and reward systems have the most bearing on the case situation at hand, and therefore will form the focus of the discussion. In this context, authority structures describe the relationship between students and academic staff. Formal regulations relate to university procedures such as those for submitting assignments and ensuring equity. The personnel selection factor can be used to describe how students are selected into the university, and into each successive year of the degree, before they come to be in the third year unit to which this paper refers. Finally, performance evaluation and rewards refer to how student learning is assessed, and how rewards or feedback, in the form of marks, are allocated.

The second box in the model represents *group member attributes* (Robbins et al. 1998). Put more simply, this means the characteristics of the individuals that constitute the group. The characteristics that receive focus in Robbins et al. (1998) are ability and personality. This paper only focuses on ability, as personality was not measured or specifically observed.

As in the individual level of analysis of performance in OB, biographical characteristics of individuals are of interest (Wood et al. 1998). However, at the group level of analysis in this paper, these characteristics are included in the third box of Robbins et al's (1998) model, under the heading *group structure*. This is because it is not the biographical characteristics, such as gender, age, or ethnic background, *as such* that determine performance, but rather the degree of similarity or difference in the group on these characteristics. In group analysis this variation in biographical characteristics is called group demography (Robbins et al. 1998).

The research discussed in Robbins et al. (1998) indicates that individuals who are most different from the rest of the group, for example one male employee in a group of seven females, are more likely to quit the organisation. This group demography is an interesting factor that seemed to have quite an effect on the functioning of the student groups described in this paper, and therefore will form an important part of the results and discussion.

In addition to group demography, elements associated with the third box in the model, group structure, are identified in Robbins et al. (1998). They include formal leadership, roles, norms, status, and size. In this instance, the groups chose their own informal leaders. Roles are 'a set of responsibilities and tasks each person is required to perform as part of their position in the group' (Robbins et al. 1998, p. 315). Although set roles were not allocated to the students, it is likely that the students adopted different roles.

For example, it was observed that some roles emerged along the lines of Belbin's (1981) team roles, including *chairperson/co-ordinator* who takes a directive role, *monitor/evaluator* who evaluates and criticises the group's work, and *finisher* who is a detail person who makes sure that the task is finished, and nothing is left out. In this study, different expectations about the role of each person in the group may have created the potential for conflict. This *role conflict* is one of several potential sources of conflict in groups (Robbins et al. 1998), and is of interest here.

Turning next to the third element of group structure, norms are expected and accepted forms of behaviour among group members (Robbins et al. 1998). It is likely that the norms that developed among group members also had some bearing on the outcomes for the groups in this study. One example of a norm that emerged is that some groups agreed to meet on Sundays and expected that all members would turn up in a state of readiness to work. However, group norms were not documented in this study and consequently will not receive much attention in the discussion.

The fact that groups were assigned an academic staff member as mentor was another element of group structure, in that mentors were a part of the groups, and fulfilled some leadership roles. However, they were not totally part of the groups, as the groups carried out many activities without the presence of the mentor. The mentors could also be described as external conditions imposed on the group, as they were part of the larger organisational system.

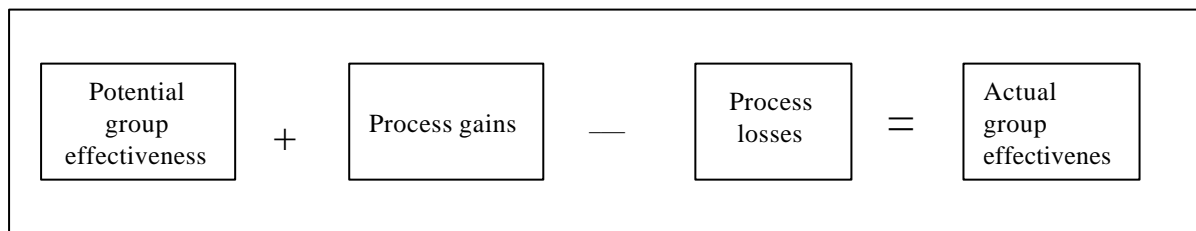
Status is the fourth element of group structure, which may have had some bearing on group performance. Technically, all group members had a similar status, since they were all students. However, some interesting differences emerged between students who were in their final year and about to graduate, and those who were not. In this case, the former assumed higher status. Also, cultural factors within some of the groups from non-English speaking backgrounds (NESB) meant that status inequities existed within groups, due to higher status usually being accorded to older, and to male group members. There was no direct evidence for these status differences, except to the extent that the author observed group members deferring to those who fell into the particular categories described here, during lecture sessions, and in meetings with the groups.

Size is the final factor in group structure to be discussed here. One conclusion from the theory is that an odd number of group members is better than an even number. A second conclusion is that five to seven members may be the best synthesis of the positive elements of both large and small groups (Robbins et al. 1998).

Group process constitutes the fourth box of the model, and signifies a large range of detailed topics relating to interaction between group members, including synergy, social loafing, cohesiveness, conflict, and leadership (Robbins et al. 1998). All of these processes, or group dynamics, are of interest here, and each will be briefly defined next.

Synergy and social loafing are effectively opposite effects of group dynamics representing process gains and process losses respectively. The concepts of process gain and process loss are illustrated in Figure 3.

Figure 3
Process loss and process gain in group dynamics



Source: Robbins, S.P., Millett, B., Cacioppe, R. & Waters-Marsh, T. 1994, *Organisational Behaviour: Concepts, Controversies and Applications*, Prentice Hall, Sydney, p 395.

From Figure 3, one example of process gain is where the synergy of the group, arising from cohesiveness and shared energy, results in the group achieving more than would be possible from the collective efforts of each group member working separately. On the other hand, social loafing occurs when group members do not ‘pull their weight’, resulting in the group as a whole performing less well than the total individual efforts of each member. Other examples include process gains that might be achieved through brainstorming, and process losses arising from conflict, or chatting about non-work related topics.

Cohesiveness is the ‘glue’ that binds groups together, and is formally defined as ‘the degree to which group members are attracted to each other and are motivated to stay in the group’ (Robbins et al. 1998, p. 327). This is an important factor in the present study because the groups were essentially forced to stay together, to complete their projects. Quitting, or ‘turnover’ as it would be defined in an OB sense, was not really a plausible option, as students ran the risk of jeopardising their degree by dropping out or failing the unit. Thus the groups were forced together, whether they were cohesive or not.

The following factors have been identified as leading to greater cohesiveness:

- more time spent together

- more severe initiation
- smaller group size
- female groups
- strong external threats
- previous success with the same group
- use of humour (Robbins et al. 1998).

Several of these factors will arise in the discussion that follows.

Cohesiveness is desirable for two reasons. First, if combined with high performance norms, it can result in better performing groups (Robbins et al. 1994). Second, it may, in this author's opinion, contribute to group members' enjoyment of the group, and their satisfaction with the task or project.

This second point is not made in Robbins et al. (1998), which is somewhat of an oversight, given the emphasis that is placed on job satisfaction in this and other OB texts. There is a connection to job satisfaction in Robbins et al's (1998) discussion of groups, in so far as turnover, or quitting, is one expression of low job satisfaction, and is also presented as one outcome of low cohesiveness. However, the group factors that contribute to satisfaction are not fully explored in Robbins et al. (1998).

The next element in group process is conflict, which can be defined in many different ways. For the purposes of this study, the *opposition* element is emphasised (Robbins et al. 1998). That is, one party is opposed to the ideas or actions of another party, and this opposition is perceptible within the group. Conflict can be negative or positive, that is, dysfunctional or functional. This paper is particularly interested in dysfunctional or negative conflict and its impact on group satisfaction.

Leadership is both a group role, from box three, and therefore part of group structure, and a group process, from box four. Leadership is a topic that deserves and receives considerable attention in the OB and management literature (Parry 1996). Here the emergence of informal leadership in the student groups is of interest, since no formal leaders were designated. Generally speaking, the informal leaders appeared to be those who adopted the *chairperson/co-ordinator* role (Belbin 1981). That is, they were quite directive and task focussed in their actions.

In the theory, elements of the fifth box in the model, *group task*, include different types of tasks that may be more or less effectively completed in groups. Briefly, tasks requiring fast action may not be best carried out in (large) groups, whereas projects that require a lot of creative thinking may benefit from group synergy (Robbins et al. 1998). There are of course many tasks and projects in the work situation that simply cannot be carried out by individuals working alone, and to this extent the question of whether or not to use a group becomes irrelevant. In this study the groups were formed in order to provide students with the experience of working in groups or teams, and also to deal with limited resources available for supervising student projects individually. Finally, the sixth box includes the two main *outcomes*: group performance and satisfaction.

So far this paper has briefly reviewed all the main elements in the six-box model of group behaviour. This was done to establish the basis for a discussion of the functioning of student project groups. The paper will now describe the method by which information about groups was collected for this study.

METHOD

Information for this paper was gathered by the author in the course of teaching a final year human resource project unit to business students in a rural Australian university. Students worked in groups on a practical project or problem for local companies, researching such topics as evaluation of performance management, and measurement of employee job satisfaction. This method is based on observation and participation by the author, feedback from the student groups obtained by a third party, and comments and observations made by other academic staff who were involved in the student projects as mentors. This method is considered appropriate for the purpose of the study, which was to develop an illustrative case study for teaching purposes (Murphy 1995). In this instance, the 'development of a rigorous generalisable paradigm' is relatively unimportant, therefore, one case study is sufficient (Remenyi, Williams, Money & Swartz 1998, p. 134). The one semester teaching of the unit is considered as one case here.

Participants

Forty-six predominantly third year students were involved, with the gender mix consisting of thirty-seven females and nine males. Age of students ranged from eighteen to approximately forty-five, and there were twenty-five non-English speaking background (NESB) students from Malaysia, Singapore, Papua New Guinea and other countries of the Pacific Rim. Students were formed into ten groups, with size ranging from three to six members. Since they were brought together to achieve a particular objective, they constituted *task* groups. However, because they chose their own groups, in some cases they also constituted existing *friendship* groups (DeCenzo 1997).

The demography of groups is considered to be quite important and further details are included in Table 1. The second column of this table summarises the demography, which represents box three of the model, or *group structure*. The third column comments briefly on the ability of the group in terms of grade point average (GPA) which is taken here as a measure of academic or intellectual ability, and thus constitutes the ability element of *group member resources*. The fourth column shows some comments on the nature of each group's project, which constituted the *group task*, or box five in the model described above.

Table 1
Group demography

Group No.	Demography	Ability	Group task
1	Six members, all same gender, five NESB, one ESB	Varying GPAs	Project: average difficulty, quantitative and qualitative
2	Five members, gender balance, all NESB	Average to high GPAs varying English competence	Project: high degree of difficulty; quantitative
3	Four members, gender balance, all ESB	Very high GPAs	Project: not well defined, quantitative
4	Four members, all same gender, all ESB	High GPAs	Project: low degree of difficulty, qualitative
5	Six members, gender imbalance, mix of ESB and NESB	GPAs mixed, including very high and very low	Project: average difficulty, qualitative
6	Five members, same gender, NESB imbalance	GPAs average, very similar	Project: average to high difficulty, qualitative and quantitative
7	Five members, same gender except one, all NESB except one	GPAs mixed low, average, and high	Project: average difficulty, quantitative
8	Five members, gender imbalance, all NESB Cultural imbalance	GPAs average, very similar	Project: average difficulty, qualitative
9	Three members, gender imbalance, all NESB	GPAs average, varying English competence	Project: not well defined; qualitative and quantitative
10	Three members, same gender, all ESB	GPAs mixed, very high and low	Project: average difficulty, quantitative and qualitative

It can be seen from Table 1 that the demography of the groups varied to quite a degree, with several exhibiting either a gender imbalance, or a NESB imbalance, or in some cases, both. There were also groups where a minority of students had lower GPAs than others. As noted above, imbalances on biographical characteristics can result in certain members not fitting in to the group, with potential for them to quit, or to at least experience lower cohesiveness. This forms one of the outcomes to be discussed below, under the heading group dynamics. In terms of the nature of the task, some group projects were considered to have a higher degree of difficulty than others, either due to the research

problem being not clearly defined, or due to the task requiring quantitative statistical analysis, with which many students in this unit have difficulty.

Observation of group processes

The students worked throughout one twelve-week semester on applied, practical projects with local companies. The entire unit, that is all ten groups and the author as lecturer, met once a week for a lecture/workshop session. The author met with each group separately on an ad hoc basis, and the frequency of this contact varied between groups. Each group also had an academic mentor with whom they met, notionally on a weekly basis, but this frequency varied substantially between groups. The author met with the mentors collectively, and more often, individually, to discuss students' progress, and the mentoring process, also on an ad-hoc basis. During these meetings impressionistic, or anecdotal observations and comments were made by mentors, and noted by the author.

Measurement and observation of outcomes

Students' final written reports were marked by the author and one other academic staff member, as were the students' oral presentations, using detailed marking criteria. Thus, this element of the study, although still somewhat subjective, did involve more than observation, and anecdotal evidence.

Observations on group and individual satisfaction were made by the author, and by a third party conducting evaluation of the teaching of the project unit. In addition, all of the outcomes reported in this paper were circulated to the academic staff members who served as mentors, for their validation. Thus, some attempts were made to ensure cross-validation of the outcomes, in order to minimise bias (Jones 1985).

RESULTS — WHAT HAPPENED IN THE STUDENT GROUPS?

The outcomes of the projects have been classified on three separate dimensions. They are academic results, group dynamics, and group satisfaction. Academic results refer to the marks achieved by the students for the unit. Group dynamics focus on the presence or absence of dysfunctional conflict and of cohesiveness in the groups. Group satisfaction reflects students' attitudes to the group itself, to the project and academic results, and to the satisfaction with the unit as a whole, which included the author as lecturer and mentor. The outcomes are summarised in Table 2.

Table 2
Observation of outcomes

Group no.	Outcomes		
	Academic results	Group dynamics	Group satisfaction
1	Average to good	Very cohesive group	High to very high
2	Very good	Cohesive, effective group	Very high
3	Excellent	Conflict within group and between group and academic staff	Very low
4	Excellent	Functional, cohesive group	High
5	Mixed, some excellent, some average	Evidence of social loafing, but cohered in the end	High to very high
6	Average to good	Very cohesive	High to very high
7	Average to very good	Group split into sub-groups who worked separately. That is, low cohesiveness, high conflict. One group member 'cast out'	Low to very low
8	Average to low	Did not work as a group	Average to low
9	Average to low	Little cohesiveness, little work as a group	Average to low
10	Very good	Dysfunctional conflict	Average

The first observation that can be made about the outcomes noted in Table 2 is that the ten groups had ten very different sets of outcomes. So although the external conditions imposed on the groups, and some elements of the project tasks were similar, there was substantial variation in the experiences and performance of the groups. What factors determined the outcomes? The author identified at least twenty-five variables, that is, aspects of the situation that differed, and which could potentially be measured, and could therefore have contributed to the outcomes. These variables are shown in Table 3, clustered into categories based on the group behaviour model introduced above.

Table 3
Potential influencing factors or variables

Group behaviour model	Factors or variables
Group structure	Gender of group Number in group Culture 2 nd year/3 rd year
Group member resources	ESB/NESB of group English expression: written/spoken Age (maturity) GPA Personality
Group task - project:	Clear/vague Qualitative/quantitative/mixed Client contact, quantity and quality
External conditions - mentor:	Available/unavailable Gender Hands on/off Drive or goal orientation Caring or people orientation Teaching ability Expectations Relationship between mentors
External conditions – unit leader	Prior knowledge of groups and individuals Relationships with mentors Competence in course content Gender Preferences (teaching and learning style)

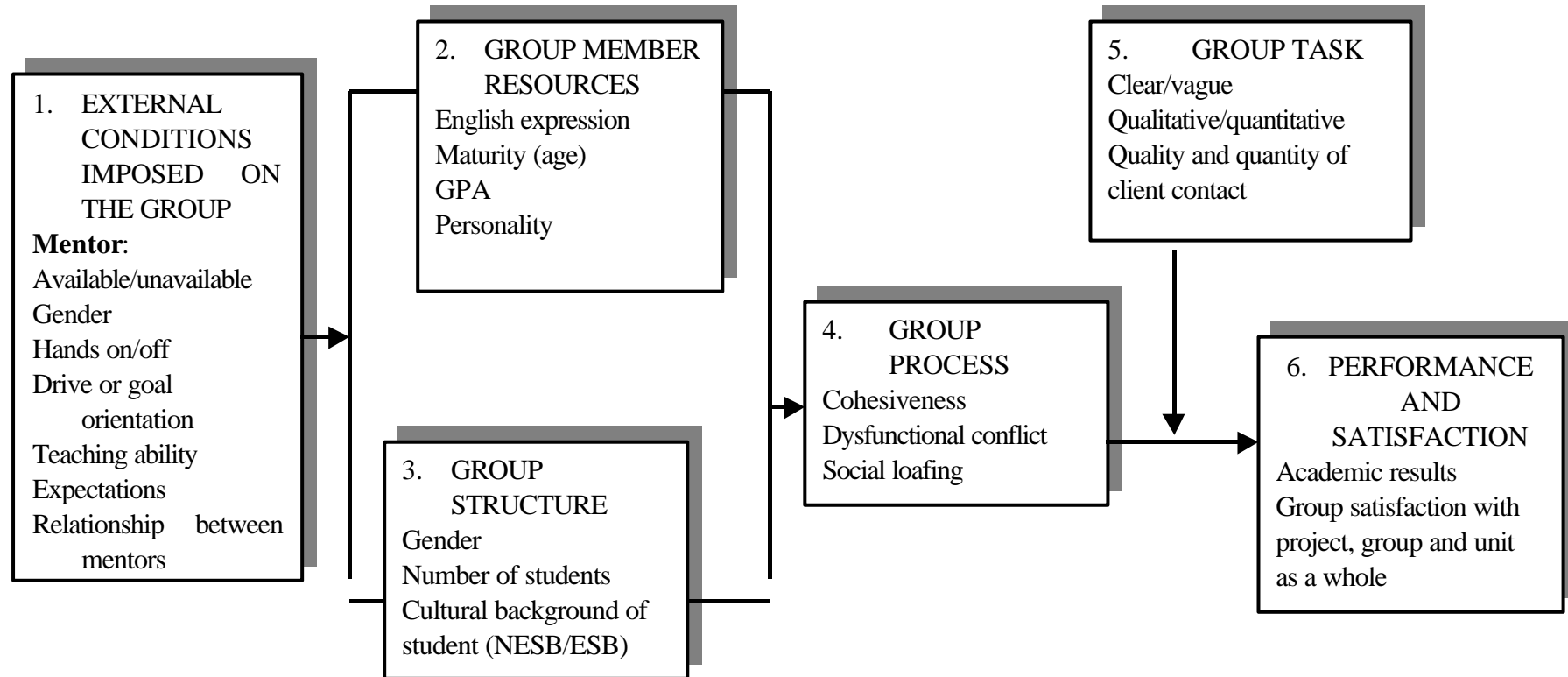
Rather than try and conclude which variables *caused* which outcomes, the discussion to follow will show how these variables and the outcomes fit into the six-box group behaviour model introduced above. However, some general conclusions about what variables, or factors might have been most influential will be made after the discussion of the model is completed. This is done in order to extract experience from this study that may be of value in future teaching of this unit, and to show how some factors can be influential in group functioning.

DISCUSSION

Starting with the first element in the group behaviour model, *external conditions* imposed on the group in the form of authority structures, had some bearing on the outcomes in this case. The relationship between the author, as lecturer, and the groups, as students, carries several elements of authority, as the lecturer has the ultimate say in terms of allocating student marks, and thus has both reward, and legitimate, bases of power (Robbins et al. 1998).

The author also potentially has expert power in so far as students naturally assume that the lecturer has specialised skills and knowledge in the project unit. However, where this proved not to be the case due to the author's inexperience in some areas, role conflict ensued, due to differences in what students expected of the lecturer's role as an authority figure. In this regard, the students as a whole, and the lecturer can be seen as a larger group.

Figure 4
Fitting the factors in this case study into the group behaviour model



Formal regulations imposed by the university as the relevant organisational system also have some bearing in a broad sense. There are rules such as when students must submit their project and the degree of collaboration between students. Generally, these factors should be seen as background conditions to the achievement of the group task, rather than being key elements determining whether or not students were successful. This is particularly the case because the same formal regulations applied across all groups.

Institutional selection procedures operated in so far as students were all considered to have a base level of ability that should enable them to complete the project, by virtue of gaining access to the university, and progressing through to the final year of their degree. However, this may have been a false assumption in regards to some students who appeared to struggle with the unit. Whether this was due to motivation or ability is not entirely clear at this stage.

The performance evaluation and reward system set up by the organisation (in this case the university) for the performance of students was designed to reward both individual (report) and group (presentation) efforts. Consequently, successful group work was more likely to be observed for the presentation than for the report. One general comment that might be made is that some student groups failed to embrace the synergies that could have been achieved by more effective group work, despite the lecturer's assurances that any and all students who qualified for the highest marks, would achieve them. That is, that it was not a competition for results.

Group members' ability appeared to be one of the elements of *group member resources* (box three in Figure 4) that was reflected in the outcomes achieved by the groups. Students with lower initial GPAs generally did not do as well in their written reports, and thus their overall group's performance was also somewhat lower. This was particularly the case in groups five, eight, nine and ten.

Interestingly, there were situations where groups had high GPAs, but their performance was downgraded by substantial dysfunctional conflict within the group. This occurred in groups three and seven. This outcome demonstrated that, in this case, group member resources alone are not sufficient to ensure good performance. Group dynamics, in this case *process loss*, was evident as the groups did not perform as well as would be expected on the basis of the ability of each member.

The significance of *group structure* (box three in Figure 4) is also illustrated by this case study, since group composition appeared to have some effect. The groups that exhibited the most dysfunctional conflict were most likely to be sharply divided on two elements of demography — either gender, or NESB, or in some cases, both. This occurred in groups six, seven, and eight — none of whom ranked among the high achieving groups. This gender outcome is consistent with the research that shows marked sex-effects in group functioning (Bettenhausen 1991). However, this demography was again not the sole determining factor, as there were other groups with similar sharp divides who were able to perform successfully as a group. The latter groups also maintained a good degree of cohesiveness and exhibited a low degree of dysfunctional or negative conflict, most notably groups one and two.

The *significance of group process* (box four in Figure 4) is well illustrated by this particular case situation. However, it is difficult to specify exactly how and why group processes, or group dynamics were influential. This is perhaps the hardest area to observe, and describe. There are several ‘mysteries’ associated with this box in the model — thus rendering it a ‘black box’ to a certain extent. That is, we know something is going on, and it was influencing the outcomes for the groups, but we do not really know in what way. This is partly because the groups did a lot of their work outside the lecture theatre, and thus their behaviour was not open to observation.

In terms of *group task*, or the actual projects, the nature of the project also had some bearing on the outcomes, in so far as group four, who were considered to have the most straightforward, qualitative project were also one of the highest achieving. However, this group was also highly homogenous, and had very able members, with high GPAs. On the other hand, group two, with a difficult, large scale, quantitative project, also did well. This group was also quite homogenous, with average to high GPAs, and their final results were very good. One member of this group commented that the group had ‘made a pact to put all conflict on hold until after the project was completed’.

Performance and satisfaction represented the two *outcomes* of this particular case situation, or the final box in the group behaviour model. Satisfaction seemed to be quite clearly related to group cohesion, and the absence of conflict. The most dissatisfaction and most complaints in the feedback session came from groups where there was a high degree of dysfunctional conflict. However, as noted above, this did not necessarily determine the final academic results achieved by the groups. Thus, a considerable degree of conflict and low cohesiveness could have affected satisfaction, but not performance.

In terms of further research, it would be valuable for students to keep learning diaries (Brookfield 1995), where they record comments on group process as the project progresses. This material would throw more light on how group processes contribute to the outcomes experienced by the group.

By way of a summary, it seems that where groups did not work well there may have been certain elements of group structure, group demography and group member resources that were more influential. These included groups with only three members, and groups where one or two members formed a minority in terms of either gender, or NESB, or both. Also, groups where there was a minority (that is one or two members) whose GPA was either much higher or much lower than the rest of the group, tended to be less functional. Thus, it appears that homogeneity of group member resources and demography may be desirable in these particular task groups.

It is interesting to note that the literature represents two different views on whether to aim for cultural diversity when selecting student groups. Anderson and Moore (1998, p. 5) argue for diversity in order to enable students to experience ‘the stress and strains of ordinary group processes’. Lewis (1995, cited in Anderson & Moore 1998) argues that selecting homogenous groups allows for students to learn about the effect of homogeneity on group outcomes. On the other hand, diverse groups allow students to increase their cultural awareness and benefit from alternative views.

In either case, it was apparent from the study reported in this paper that whatever the composition of the groups, students need to be supported in their handling of group processes, and especially conflict. The learning objectives relating to group work need to be made explicit. Additionally, any objectives that educators may have for giving students experience in 'the stress and strain of groups' needs to be balanced against students' needs to learn in a conducive environment. It seems that an explicit effort to introduce and reinforce understanding of group processes is necessary to both facilitate the achievement of the group project, and to ensure that students do learn from the experience of doing a group, as opposed to an individual, project.

CONCLUSIONS

Reviewing the six main elements of the group behaviour model, the following conclusions can be drawn. Of the many external conditions imposed on the group, authority structure of lecturer-student did have some influence. Also the performance and reward system clearly showed that where rewards (marks) are allocated on a group basis, a greater effort towards group work was observed.

Group member resources in the form of students' intellectual abilities were a necessary, but not sufficient, determinant of final outcomes. Group structure in the form of demography had perhaps the largest impact on the satisfaction outcomes, with some diverse or heterogenous groups experiencing a degree of dysfunctional conflict. Group process was clearly influential, but was not documented sufficiently to draw any conclusions. The difficulty of the group task also was a relevant variable, but again was not the sole determinant of outcomes.

The group behaviour model was used in this paper as a way of simplifying and organising the complexities of group functioning of student project groups. The varying outcomes achieved by the different groups suggest that it is difficult to identify a few key factors that would ensure that the groups were cohesive, satisfied, and high performing. However, it is possible to make some comments on the factors that seem most likely to be associated with dysfunctional conflict, low satisfaction and, to a lesser extent, poor performance. It appears that one of the main ways to avoid dysfunctional conflict in the groups would be to ensure that there were no minority divisions within the groups, where one student was 'outnumbered' on either gender, NESB, or academic ability. Lower conflict appeared to lead to higher satisfaction, and constructive group dynamics appeared to contribute to the actual results, or performance achieved by the groups.

This conclusion has important implications for work groups, particularly in the context of an increasingly diverse workforce. It suggests that even more careful attention would need to be paid to managing dysfunctional conflict in diverse or unbalanced groups, if job satisfaction and productivity are to be achieved.

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INSTRUCTIONAL COMMENTARY

- 1 Choose a work or social group with which you are familiar, and use the 'six-box model' presented in Figure 2, to map out a description of the group. That is, take each box in the model and write down the characteristics of the group that fit into each of the boxes. For example, if the group has six members, this would fit into box three, group structure, since this box includes the *size* of the group.
- 2 Choose one group from the case study described above and carry out the same exercise. Track the details and experience of this particular group through, from the information given in each of Tables 1 and 2, and in the Discussion section of this paper.
- 3 From your own experience with groups, do you believe that demographic imbalances affect group performance?