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**CULTURAL AND OTHER INFLUENCES
ON STUDENT PERCEPTIONS OF THE
USE OF CASE STUDIES AND STUDY
GROUPS IN MANAGEMENT
ACCOUNTING**

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Abstract

Recent accounting education literature indicates a trend towards an increasing use of case studies, groups and cooperative learning. The literature in these fields is primarily of a descriptive nature, either suggesting how to apply the principles of cooperative learning, or illustrating specific applications of the case method of instruction. Limited empirical evidence exists regarding student perceptions of the use of case studies, study groups and cooperative learning. This evidence is inconclusive regarding the use and/or effectiveness of cooperative learning, groups and the case method, or of students' perceptions of these teaching methodologies. This study examines students' perceptions of the use of case studies and group learning in a management accounting course and identifies the influences on such perceptions.

The context within which the study is conducted is an undergraduate accounting degree programme being conducted by a New Zealand university in Malaysia. The student population comprised Malaysian students of three different ethnic backgrounds, namely, Malay, Chinese and Indian. The study examines whether their perceptions are influenced by students' ethnic backgrounds, gender, individualistic/collectivist beliefs and extroverted/introverted personality traits. In addition, the study examines whether there is a relationship between students' perceptions about the use of study groups/the case method and performance in case study assignments.

The research is conducted by the administration of a questionnaire. An analysis of the results reveals significant differences in perceptions of participation in study group activity by gender and by collectivistic/individualistic beliefs. There are also significant differences in perception of the use of case studies, without study groups, by collectivistic/individualistic beliefs and by BCM Grade Point Average for degree studies.

The study is useful for educators who use or intend to use case studies and/or study groups in delivering a course by highlighting issues which need to be addressed prior to pedagogical design, for example, the gender composition of the student population, as well as the individualistic/collectivistic beliefs of the population.

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1. Introduction

There is a trend towards an increasing use of cooperative learning in accounting education and other disciplines.¹ Central to cooperative learning is the use of study groups (Caldwell *et al.*, 1996, Hite, 1996), with case studies frequently being the vehicle with which to implement cooperative learning principles (Saudagaran, 1996, Knechel, 1992, Campbell and Lewis, 1991). The literature which examines these pedagogical approaches to education is primarily of a descriptive nature, either suggesting how to apply the principles of cooperative learning (Peek *et al.*, 1995, Cottell and Millis, 1993), or how to incorporate the case method of instruction into accounting instruction (Saudagaran, 1996, Wines *et al.*, 1994, Knechel, 1992,). Limited empirical research into the use of cooperative learning and study groups has been conducted (Hutchinson and Gul, 1997, Caldwell *et al.*, 1996, Hite, 1996, Ravenscroft *et al.*, 1995) and none on the use of case studies. In particular, the literature does not examine in-depth student perceptions of the use of study groups, case studies and cooperative learning and the environmental factors that influence such perceptions. Greater understanding of such environmental factors will assist in explaining some of the conflicting findings in the literature and assist educators in designing effective teaching approaches.

This study, using a questionnaire survey, examines students' perceptions of the use of case studies and group learning and identifies the influences on such perceptions. Influences examined include culture, academic performance, and other personal attributes, such as gender and collectivistic/individualistic beliefs.

The remainder of the paper is structured as follows. The following section examines the literature with a focus on relevant empirical studies. Section 3 describes the research hypotheses. Section 4 outlines the research design. Analysis of the results is provided in section 5. Section 6 provides a discussion of the results and makes recommendations for further research. A conclusion is presented in the last section.

¹ In accounting education, see for example, Ravenscroft, 1997, Sullivan, 1996, Caldwell, Weishar and Glezen, 1996. In other disciplines, see for example, Lloyd *et al.*, 1996, Ganter, 1994.

2. Literature Review

This section provides a review of the literature relating to cooperative learning in accounting, and the use of study groups and case studies. The review will encompass both descriptive studies, as well as the findings of the empirical studies conducted. The three teaching methodologies are highly interrelated; the case approach frequently involves the use of small study groups, while cooperative learning is based upon the concept of learning groups, with positive interdependence and individual accountability of group members (Sullivan, 1996, Ravenscroft, 1997, Ravenscroft *et al.*, 1995).

The increased interest in these new pedagogical approaches in accounting education is, in part, a response to needs of employers. Pronouncements by the Accounting Education Change Commission (AECC, 1990) and the big eight public accounting firms (Perspectives on Education, 1989) call for more innovative teaching of accounting to facilitate the development of, *inter alia*, stronger communication and interpersonal skills. To achieve these outcomes in accounting graduates, the AECC and the big eight public accounting firms recommend the use of techniques such as study groups, cooperative learning and the case method (the use of case studies). While case studies have been used in management education for many years, being particularly closely associated with the Harvard Business School in the United States (US) (Wines *et al.*, 1994, Shapiro, 1984), their usage in accounting education is more recent.

There are several descriptive studies relating to case studies. Campbell and Lewis (1991) describe the uses of cases in accounting classes. They argue that the success or failure of the use of cases depends primarily on the specific educational objectives and practical implementation issues. For example, cases might be appropriate if the course objective is to facilitate the development of analytical and judgement skills, whereas lectures and reading assignments may, but need not exclusively, be more appropriate means of presenting basic accounting techniques. Campbell and Lewis (1991) also describe the instructor's level of comfort with a case classroom format and student comfort, for example, with ambiguity in solutions, as factors to be considered when introducing cases into a course. Knechel (1992) provides a detailed exposition of students' roles (for example, preparation and participation) and the instructor's roles (for example, control of the discussion) when using the case method

in accounting instruction. Knechel (1992) also describes implementation and grading issues pertinent to the use of cases.

Numerous descriptive studies examine cooperative learning in accounting. Cottell and Millis (1992) cite Davidson and O' Leary (1990) as identifying three essential components of cooperative learning, namely:

1. The class is divided into small groups (typically with two to five members each), who work together cooperatively to discuss and complete an academic task.
2. Tasks can be given at various levels of intellectual complexity: facts, skills, concepts, principles, problem solving, and creative thinking. A teacher presentation may or may not precede the group activities.
3. The teacher states guidelines to foster cooperation and mutual interdependence within each group, circulating from group to group and noting progress and problems for later processing (p.31).

Drawing on Davidson and O' Leary's (1990), and other studies, Cottell and Millis (1992) stipulate four attributes that distinguish cooperative learning from less structured small group procedures. These are:

1. Positive interdependence within the group, by ensuring that all members of the group contribute to each other's learning.
2. Individual accountability, whereby individuals retain responsibility for their own learning and cannot take advantage of group performance.
3. Appropriate grouping, that is, the creation of heterogeneous groups, for example, in terms of ethnic background, gender and academic ability, to facilitate tolerance and understanding of differences amongst students.
4. Group processing, for example, self-monitoring and reflection, to develop team skills and enhance participation levels of all group members.

In implementing cooperative learning in the classroom, the authors found that students participated enthusiastically in the activities. Cottell and Millis (1992) also report preliminary evidence that students learned more about accounting by cooperative learning than in traditional classes.

In a subsequent paper, Cottell and Millis (1993) refine their cooperative learning attribute of *group processing* to encompass two attributes, namely, social skills and group monitoring. Cottell and Millis (1993) describe how to implement cooperative learning in accounting, providing numerous examples of group formation and the successful usage of the teaching structures.

Peek *et al.* (1995) describe the development of four cooperative learning lessons in management accounting. Sullivan (1996) describes how cooperative learning can be used to teach financial statement analysis in a manner that will foster the development of problem solving and critical thinking skills. Adler and Milne (1996), in investigating the presence of process-oriented learning techniques in New Zealand educational institutions, find very little use of study groups and case studies in teaching and assessment.

A debate on the merits or otherwise of cooperative learning has recently appeared in the literature. Ravenscroft (1997a) argues that despite its lack of finality and several unanswered questions, cooperative learning research shows positive achievement and attitudinal gains. She argues that the benefits include higher academic achievement with cooperative structures than with competitive or individualistic structures, and the positive impact that cooperative learning can have on staff morale. Ravenscroft (1997a) acknowledges that some students feel negatively about sharing grades and that faculty may believe that the use of cooperative learning may result in a loss of information value in grades. Unanswered questions that Ravenscroft (1997a) enumerates relate to weaknesses in the research on cooperative learning. For example, the research features numerous uncontrolled variables, such as teacher personality, students' age, student expectations and widespread use of convenience samples. Other weaknesses in the research include no measures of changes in interpersonal skills of students exposed to cooperative learning, the issue of whether the cooperative process should be highly structured or not and the lack of consistent research showing significant negative findings from the use of cooperative learning.

Holt *et al.* (1997a) present a case against cooperative learning. They argue that cooperative learning leads to inefficient allocation of scarce student time, which may in turn lead to lower student knowledge. Holt *et al.* (1997a) contend that individuals can best maximise their own utility, whereas cooperative learning requires the lecturer to set a mandatory minimum level of time for cooperative learning. As students are different, without identical production functions for knowledge, Holt *et al.* (1997a) state that the student should be allowed to allocate the available time, with the lecturer providing the information about the nature and style of work required to meet minimum achievement standards. Holt *et al.* (1997a) also argue that cooperative learning may reduce student grade variance and raise the mean grade, creating a problem of adverse selection for prospective employers. This may cause above-average students to opt out of accounting programmes.

Ravenscroft (1997b), in a reply to Holt *et al.* (1997a), argues that, with respect to imposing requirements on students, because Holt *et al.* (1997a) fail to distinguish between cooperative learning and other pedagogical practice, their reasoning applies equally to any requirements imposed by faculty. With respect to cooperative learning decreasing the signalling value of grades, Ravenscroft (1997b) states that this would only be the case if students were only graded as a group and not also as individuals. The former approach is rejected by proponents of cooperative learning. Ravenscroft (1997b) argues that correctly implemented and graded cooperative learning leads to greater individual knowledge. In a rebuttal to Ravenscroft (1997b), Holt *et al.* (1997b) argue that cooperative learning makes students' rewards - usually grades - some function of the learning of other students. Teamwork required in most business settings, however, holds individuals accountable for end products and their own input - it does not require acceptance for others' behaviour and achievement. Holt *et al.* (1997b) do not therefore believe that cooperative learning is realistic in preparing students for business' value systems.

There are some empirical studies that examine the use and effectiveness of cooperative learning, groups and the case method, and of students perceptions of these teaching methodologies. Caldwell, Weishar and Glezen (1996) examine the effectiveness of cooperative learning and find a marginal improvement in performance by Accounting Principles I students who participated in such a learning approach. Caldwell, Weishar and Glezen (1996) also find that students' perceptions of accounting before and after participating in co-operative learning improved. Caldwell *et al.* conclude that the use of cooperative learning is likely to be effective

in maintaining positive perceptions of Accounting Principles I students' interest in learning accounting. Caldwell *et al.* (1996) do not find either an improvement in performance or in perceptions by Accounting Principles II students.

Ravenscroft *et al.* (1995), Hite (1996) and Cottell and Millis (1992) also find positive performance benefits for students working in experimental study groups. Ravenscroft *et al.* (1995) find that performance of Accounting Principles students is higher when student grades are based on both individual and group performance, as compared to being based entirely on individual performance. They furthermore discover that the benefit of cooperative learning is not restricted to lower-achieving students at the cost of the higher-achieving members of the class. Ravenscroft *et al.* do not find a significant difference in student perceptions for the different grading systems.

Hite (1996) examines the effect on performance of group exams in a tax class. She finds that students participating in group mid-term exams score significantly higher on a comprehensive final exam than students who do not. She reports that the benefits of group mid-term exams are significantly higher for both high and low GPA students. Hite (1996) concludes that students of all abilities are motivated to work together, suggesting that there is no hitchhiker effect. Hite (1996) also finds that students participating in group mid-term exams have more positive attitudes towards the instructor and the course.

Cottell and Millis (1992) find preliminary evidence that intermediate accounting students who use cooperative learning perform better in a comprehensive final examination than students in traditional classes in a previous semester, concluding that the cooperative learning students learn more about accounting than in traditional classes.

Some empirical studies have been conducted on the use of either case studies or study groups, although not within a cooperative learning framework. Saudagaran (1996) uses cases, together with other pedagogically innovative features, in a redesigned Introduction to Accounting course. Saudagaran's rationale for using cases is to deemphasize a single solution approach and to stress the need to deal with uncertainty in accounting. Students indicate in a questionnaire that they find the new course improves their perception of accounting. Saudagaran (1996) also reports a statistically significant improvement in the quality of students being attracted into the accounting programme compared to prior years. Saudagaran

(1996) does not, however, control for other changes that may have occurred during the period under review in the comparison.

Parry (1990) examines the effect of assigned study groups on study effort and examination performance in two exams in an introductory accounting course at the graduate level. In respect of the first exam, he finds that students assigned to study groups spend about the same amount of time studying with others as those not assigned to study groups, that is, there is no significant difference. Parry (1990) suggests that a reason for this is that students probably prefer to choose their own study partners. Furthermore, the students assigned to groups spend significantly less time studying alone and in total, and have significantly lower scores on the first exam; this is particularly true for students with weaker academic backgrounds. Parry (1990) suggests that the reason for this is that students assigned to study groups appear to rely too heavily on group study and use it as a substitute for studying on their own. This suggestion would lend credence to the view that individual accountability is a necessary attribute for the successful implementation of cooperative learning (Cottell and Millis, 1992). In respect of the second exam, three weeks after the first exam, no significant differences are found between those students assigned to groups and those not. Parry (1990) suggests that this is due to those students assigned to study groups realising that they are relying too heavily on studying with others for the first exam and modifying their behaviour for the second exam.

Hutchinson and Gul (1997) examine the relationship between students' personality and cultural beliefs and their preference for group learning situations. They find that extroverted students who hold collectivist cultural beliefs prefer more group learning situations than extroverted students who hold individualistic cultural beliefs. Conversely, collectivist students who are introverted do not prefer group learning methods. These results support the concern of Hutchinson and Gul (1997) that an examination of the effects of extroversion/introversion on students' attitudes towards group learning and performance should also recognise the confounding effects of students' cultural and other beliefs. Hutchinson and Gul (1997) suggest that future research should use more sophisticated measures of collectivism - their research measures collectivism by student responses to four questions. Further suggestions made by Hutchinson and Gul (1997) are that the association between preference for learning approaches and performance be investigated, as well as other learning approaches, such as case studies.

Further studies which also consider cultural background and/or learning style are conducted by Auyeung and Sands (1996) and Fatt (1995). Auyeung and Sands (1996) compare the learning styles of Australian students with Hong Kong and Taiwanese students, as well as the students' perceptions of their cultural styles. The Australian students are found to be individualistic, whereas the Hong Kong and Taiwanese (Chinese) students consider themselves to be collectivistic. The Chinese students' learning style is found to be significantly more abstract and reflective, as well as less concrete and active than that of the Australian students. Furthermore, Hong Kong students are significantly more reflective than Taiwanese students. Auyeung and Sands (1996) conclude that there is no single universal learning style for students of a particular field across countries. Fatt (1995) examines the learning styles of accounting students in Singapore. He finds that students have a convergent and analytical thinking orientation and are reflective. Fatt believes that the use of case studies to develop analytical and planning skills will be appropriate for convergent, analytical students.

There are a number of studies in the areas of cooperative learning, study groups and case studies, both descriptive and empirical. The empirical studies show mixed results relating to the impact of cooperative learning and the use of study groups and case studies. While each study contains one or more relevant variables, some studies suggest and find that the impact of group learning is associated with personal attributes, for example, cultural background. A single, comprehensive study, containing the numerous influences, including cultural background and personality, which may explain student perceptions, has not been conducted, nor have these numerous influences been linked to performance. Furthermore, no study has been conducted into students' perceptions about the functioning of study groups and case studies.

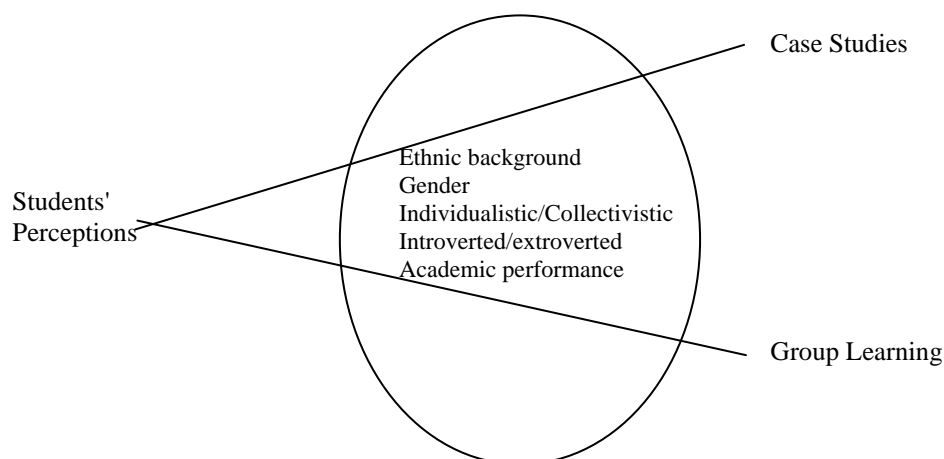
This study contributes to the existing literature by assessing:

- student perceptions of study groups and case studies;
- the association between perceptions of study groups and case studies, and personal attributes, including academic performance.

3. Hypotheses

This study examines students' perceptions of case study and group learning and the environmental influences on such perceptions. The selected environmental factors are ethnic background, gender, individualistic/collectivist beliefs, extroverted/introverted personality, and academic performance. These environmental factors have been examined in previous studies, either singly (for example, Hutchinson and Gul, 1997), or in some combination (for example, Ravenscroft *et al.*, 1995), but have not all been included in a single, comprehensive study. This study examines students' perceptions in relation to an accounting subject (Advanced Management Accounting) in which such teaching methods are used.

The research questions are illustrated by the following diagram:



Based on this diagram, the following null hypotheses are developed:

1. Ethnic Backgrounds

H₀1a: Based on ethnic backgrounds, there are no differences in perception of use of case studies.

H₀1b: Based on ethnic backgrounds, there are no differences in perception of use of case studies, without being in groups.

H₀1c: Based on ethnic backgrounds, there are no differences in perception of use of study groups.

2. Gender

H₀2a: Based on gender, there are no differences in perception of use of case studies.

H₀2b: Based on gender, there are no differences in perception of use of case studies, without being in groups

H₀2c: Based on gender backgrounds, there are no differences in perception of use of study groups.

3. Individualistic/Collectivistic

H₀3a: Based on individualistic and collectivistic beliefs, there are no differences in perception of use of case studies.

H₀3b: Based on individualistic and collectivistic beliefs, there are no differences in perception of use of case studies, without being in groups.

H₀3c: Based on individualistic and collectivistic beliefs, there are no differences in perception of use of study groups.

4. Introverted/Extroverted

H₀4a: Based on introverted and extroverted personality traits, there are no differences in perception of use of case studies.

H₀4b: Based on introverted and extroverted personality traits, there are no differences in perception of use of case studies, without being in groups.

H₀4c: Based on introverted and extroverted personality traits, there are no differences in perception of use of study groups.

5. General Academic Performance

H₀5a: Based on BCM Grade Point Average, there are no differences in perception of use of case studies.

H₀5b: Based on BCM Grade Point Average, there are no differences in perception of use of case studies, without being in groups.

H₀5c: Based on BCM Grade Point Average, there are no differences in perception of use of study groups.

6. Subject Academic Performance

H₀6a: Based on academic performance in the course, there are no differences in perception of use of case studies.

H₀6b: Based on academic performance in the course, there are no differences in perception of use of case studies, without being in groups.

H₀6c: Based on academic performance in the course, there are no differences in perception of use of study groups.

Hypotheses to measure the association between age and student perceptions are not created, as 54 of the 62 respondents are 21 years old (ages ranged from 21 to 41).

4. Research Design

4.1 Instrument Design

In order to test the hypotheses, a questionnaire was designed for administration to the target population. This is preceded by a pilot study. The questionnaire is divided into seven parts, as follows:

Part 1: general background, requesting demographic information from students, for example, ethnic background, gender and first language.

Part 2: study groups in general, requesting information about study groups which the respondent may have participated in prior to studying Advanced Management Accounting (the course).

Part 3: case studies in general, requesting information about case studies which the respondent may have experienced prior to studying the course.

Part 4: the use of study groups and case studies in the course, requesting student opinions about the use of these learning techniques specifically in the subject.

Part 5: self-directed learning, requesting student perceptions about the relationship between the use of groups and case studies and becoming a self-directed learner.

Part 6: teaching methods and learning situations, seeking student preferences about their learning styles (adapted from Hutchinson and Gul, 1997).

Part 7: further comments, being an unstructured section, allowing students the opportunity to make any comments they wished to about the use of case studies and groups.

This paper reports only on Parts 1, 4 and 6. Student perceptions on case studies and study groups in general, as well as on self-directed learning, will be reported on in a further paper.

For purposes of testing the hypotheses, 3 dependent variables are identified - student perceptions of study groups used in the course, student perceptions of case studies used in the course, while working in groups, and student perceptions of case studies, without group work. Student perceptions of study groups used in the course are measured by a composite score² for the questions:

Working in the group improved my interpersonal skills (defined as *the ability to interact smoothly with other people*).

Working in the group improved my listening skills.

Student perceptions of case studies used in the course, while working in groups, are measured by a score for the question:

The daily case studies were valuable in developing my knowledge of Management Accounting.

Student perceptions of case studies, without group work, are measured by a score for the question:

I would have preferred to use case studies without being in groups (that is, alone).

The independent variables were ethnic background, gender, age, individualistic/collectivistic beliefs, introverted and extroverted personality traits and academic performance. Although age was included in the questionnaire, hypotheses to measure the association between age and student perceptions are not created, as 54 of the 62 respondents are 21 years old (ages ranged from 21 to 41). Performance data were obtained by asking the students to state their Grade Point Average (GPA) for their prior degree (BCM) and their percentage for the course.

Data on individualistic/collectivistic beliefs and introverted/extroverted personality traits were collected in Part 6 of the questionnaire, which was adapted from Hutchinson and Gul (1997)

² Students were requested to indicate their preference for the question by choosing a number from 1 (strongly agree) to 7 (strongly disagree).

(see the Appendix). Hutchinson and Gul (1997) also measured students' perceptions about their preferences for group learning in their questionnaire (questions 2 to 4 in the Appendix). Individualistic/collectivistic beliefs were measured by a composite score³ for questions 5 to 8 in Part 6 of the questionnaire (see the Appendix). Introverted and extroverted personality traits were measured by a composite score⁴ for the 10 sub-questions in question 9 in Part 6 of the questionnaire (see the Appendix).

In an attempt to minimise variations in students' responses due to different interpretations of the questions, the terms *study groups* and *case studies* were defined in the questionnaire. For purposes of this study, study groups are defined as two or more people working together on any academic task⁵. The study groups which are the subject of this study were created as an aid to students using the case method of learning. For the purposes of the study, a case study is defined as an unstructured academic assignment, which requires information to be analysed and organised, in an attempt to determine an answer from available alternatives⁶.

The questionnaire is tested in a pilot study of students of similar backgrounds. Students' comments are taken into account in revising and finalising the questionnaire for administration to the target population.

4.2 Subject and Data Collection

The context within which the study is conducted is an undergraduate accounting degree programme conducted by a New Zealand university in Malaysia. The student population comprised Malaysian students of different ethnic backgrounds, namely, Malay, Chinese and Indian. During their degree studies, the students are exposed to the use of study groups and case studies in different courses.

³ Students were requested to indicate their preference for the question by choosing a number from 1 (strongly agree) to 7 (strongly disagree).

⁴ Students were requested to indicate their preference for each question by encircling either a or b. These were scored as either 1 or 2 respectively.

⁵ This definition is developed by a synthesis of the literature on study groups (for example, Cottell and Millis, 1993, Ravenscroft *et al.*, 1995).

⁶ This definition is developed by amending the definition in Fatt, 1995.

The study examines student perceptions in a specific course, Advanced Management Accounting (the course), which students sit in their final year of degree studies. The course sets the following learning objectives for the use of group and case-based learning:

- to encourage students to analyse, interpret, form opinions and make judgements;
- to encourage students to use the various theories, models and frameworks to support opinion formation;
- to have students participate in group processes so they develop an understanding of the difficulties of decision-making in a social setting;
- to expose students to the real complexities of organisational dynamics;
- to position management accounting as an integral part of an overall management control system.

At the beginning of week one⁷ of the course, the class, comprising 74 students, is asked to form itself into groups of three to six members, and to appoint a group manager. Each day during weeks one and two, a case study is distributed to two groups, which will be presented by the groups the following day and critiqued by two other groups, chosen at random. At the beginning of week three, each group is provided with a major case study, which is to be presented later in the week and critiqued by another group. An hour is allocated for the presentation. Each group is required to submit a consultant's report of the case study for grading.

Throughout the course, the examiner and an assistant are available to act as consultants to the groups. The presentation and submission of the major case study count for 20% towards students' course grades.

⁷ The course is taught intensively over a three week period, with each teaching week separated by one month from the next week.

Sixty two of the students in the course proceeded with post-graduate studies on completion of their degree programme. The questionnaire was administered to the students on commencement of their post-graduate studies. All (sixty two) of the questionnaires were completed and handed in, but not all of these were completed fully. Students were not requested to identify themselves.

5. Data Analysis

The data is analysed by using descriptive and non-parametric statistics.

Table 1 provides descriptive statistics regarding ethnic backgrounds of the subjects and the results of a Kruskal-Wallis test. The results indicate that there are no significant differences in perception of the use of case studies in the course based on ethnic backgrounds. Therefore, H_{01a} is not rejected.

Table 1
Ethnic Background and Use of Case Studies

Ethnic Background	No.	Median perception of use of case studies
Malay	32	3.00
Chinese	21	3.00
Indian	6	3.00
Other	1	N/A
Total	60	3.00

Kruskal-Wallis 1-Way Anova

Chi-Square	D. F.	Significance
2.6382	3	0.4508

Table 2 provides the results of a Kruskal-Wallis test for perceptions of the use of study groups, as well as perceptions of the use of case studies, without being in groups, based on ethnic backgrounds. There are no significant differences and therefore the null hypotheses H_{01b} and H_{01c} are not rejected.

Table 2
Ethnic Background, Study Groups and Case Studies Without Groups

Ethnic Background	No.	Median perception of use of study groups	Median perception of use of case studies without groups
Malay	32	2.00	6.00
Chinese	22	2.50	7.00
Indian	6	2.50	6.00
Other	2	3.50	6.50
Total	62	2.00	6.00

Kruskal-Wallis 1-Way Anova

Use of study groups

Use of case studies without groups

Chi-Square	D. F.	Significance	Chi-Square	D. F.	Significance
5.9771	3	0.1127	4.1318	3	0.2476

Table 3 provides results of a Mann-Whitney U test for perceptions of case studies between females and males. The results indicate that there are significant differences in perceptions of case studies based on gender. The results indicate that H_{02a} is rejected. The results further indicate that males perceive case studies more favourably than females.

Table 3
Gender and Perception of Case Study

Gender	No.	Median perception of use of case studies
Female	45	3.00
Male	15	4.00
Total	60	3.00

Mann-Whitney U test

U	W	Z	2-Tailed P
217.0	1252.0	-2.1174	0.0342

Table 4 provides the results of a Mann-Whitney U test for the use of study groups between females and males. The results indicate that there are no significant differences in the use of study groups based on gender. The results indicate that H_{02c} is not rejected.

Table 4
Gender and the Use of Study Groups

Gender	No.	Median perception of the use of study groups
Female	47	2.00
Male	15	2.50
Total	62	2.00

Mann-Whitney U - Wilcoxon Rank Sum W test

U	W	Z	2-Tailed P
348.5	648.5	-0.0668	0.9468

Table 5 provides the results of a Mann-Whitney U test for the use of case studies, without groups, between female and male. The results indicate that there are no significant differences in perception of using case studies without groups based on gender. These results indicate that H_02b is not rejected.

Table 5
Gender and the Use of Case Studies Without Groups

Gender	No.	Median perception of the use of case studies without groups
Female	47	7.00
Male	15	6.00
Total	62	6.00

Mann-Whitney U - Wilcoxon Rank Sum W test

U	W	Z	2-Tailed P
257.0	377.0	-1.6747	0.0940

Table 6 shows a matrix of Spearman Correlation Coefficients among variables including individualistic and collectivistic beliefs, introverted and extroverted personality traits, academic performance, perception of using case studies, perception of case studies without being in a group and perception of using study groups.

The results indicate that there are no significant associations between individualistic and collectivistic beliefs and perception of using case studies. Therefore, the null hypothesis H_03a is not rejected. There are significant associations between individualistic and collectivistic beliefs and perception of using case studies without being in groups. The null hypothesis H_03b is therefore rejected. There are significant associations between individualistic and

collectivistic beliefs and perception of using study groups. The null hypothesis H_{03c} is also rejected.

There are no significant associations between introverted and extroverted personality traits, perception of using case studies, perception of using case studies without being in groups, and perception of using study groups. Therefore, the null hypotheses H_{04a} , H_{04b} and H_{04c} are not rejected.

There are no significant associations between BCM Grade Point Average and perception of using case studies and perception of using study groups. Therefore, the null hypothesis H_{05a} and H_{05c} are not rejected.

There are significant associations between BCM Grade Point Average and perception of using case studies without being in groups. Therefore, the null hypothesis H_{05b} is rejected.

Based on percentage for the course, there are no differences in perception of use of case studies, perception of use of case studies without being in groups and perception of use of study groups. Therefore, the null hypotheses H_{06a} , H_{06b} and H_{06c} are not rejected.

Table 6
A Matrix of Spearman Correlation Tests for Variables : Individualistic/Collectivistic, Introverted/Extroverted, BCM GPA, Percentage for the Course, Perception of Use of Case Studies, Use of Study Groups and Use of Case Studies Without Groups

Variables	Individualistic/ Collectivistic	Introverted/ Extroverted	BCM GPA	Percentage for the course	Perception of Case Study	Group Learning (Q34-35)
Introverted/Extroverted	-0.0801 (N=52) Sig. 0.573					
BCM GPA	-0.3075 (N=58) Sig. 0.019*	-0.1986 (N=50) Sig. 0.167				
Percentage for FIAC318	-0.3030 (N=56) Sig. 0.023*	-0.0823 (N=47) Sig. 0.582	0.7868 (N=53) Sig. 0.000***			
Perception of use of case studies	0.0690 (N=60) Sig. 0.600	-0.2394 (N=50) Sig. 0.094	0.0727 (N=57) Sig. 0.591	0.0823 (N=55) Sig. 0.550		
Perception of use of study groups	0.2909 (N=62) Sig. 0.022*	-0.2651 (N=52) Sig. 0.058	0.1304 (N=58) Sig. 0.329	-0.0081 (N=56) Sig. 0.953	0.2317 (N=60) Sig. 0.075	
Perception of use of case studies without groups	-0.3750 (N=62) Sig. 0.003**	0.0796 (N=52) Sig. 0.575	0.4381 (N=58) Sig. 0.001**	0.1725 (N=56) Sig. 0.203	-0.0341 (N=60) Sig. 0.796	-0.2384 (N=62) Sig. 0.062

* Significant at $p \leq 0.05$ level (Two-tailed test)

** Significant at $p \leq 0.01$ level (Two-tailed test)

***Significant at $p \leq 0.001$ level (Two-tailed test)

6. Discussion

The tests discussed in the preceding section indicate that the following null hypotheses are rejected:

H₀2a: Based on gender, there are no differences in perception of use of case studies.

H₀3b: Based on individualistic and collectivistic beliefs, there are no differences in perception of use of case studies, without being in groups.

H₀3c: Based on individualistic and collectivistic beliefs, there are no differences in perception of use of study groups.

H₀5b: Based on BCM Grade Point Average, there are no differences in perception of use of case studies, without being in groups.

The rejection of null hypothesis H₀2a suggests that there are differences in the perceptions of male and female students about the use of case studies, or, more specifically, that “The daily case studies were valuable in developing my knowledge of Management Accounting”. The results indicate that males perceive case studies to be more valuable than females. Saudagaran (1996), who found an enthusiastic response by students to the use of case studies in an Introduction to Accounting course, did not analyse the results on the basis of gender.

The rejection of null hypothesis H₀3b, indicates a greater value being attached to case studies when group work is required. The positive correlation indicates that students with collectivistic beliefs have stronger preferences for case study work which is done in groups.

The rejection of null hypothesis H₀3c indicates a difference in perception of the use of study groups based on collectivistic or individualistic beliefs, with collectivistic students preferring the use of study groups. This result is similar to the findings of Hutchinson and Gul (1997), who, using a multivariate analysis, found support for the hypothesis that extroverted students who hold collective cultural beliefs prefer more group learning situations than extroverted students who hold individualistic cultural beliefs. This study did not test for the effects of the

interaction between extroversion/introversion and collectivism/individualism on group learning preferences.

The rejection of null hypothesis H₀5b indicates that students with high GPA's expressed a preference for using case studies without being in study groups. This suggests that better performing students dislike working with other students, particularly academically weaker ones. This supposition is not supported by the responses to the question, *my learning was not enhanced by working with people of lower ability*, which had a median response of 4 (neutral). Slightly more students *strongly disagree* (22) than *strongly agree* (17) with this statement, suggesting a willingness to work with, and possibly learn from, academically weaker students. This issue needs to be examined further.

7. Conclusion

This paper is part of a continuing study into students' perceptions about the use of case studies and study groups in an accounting course, Advanced Management Accounting. In particular, student perceptions about group processes and perceptions about the association between the use of study groups and case studies and self-directed learning, will be addressed.

The study is useful for educators who use or intend to use case studies and/or study groups in delivering a course by highlighting issues which need to be addressed prior to pedagogical design. Such issues include the gender composition of the student population, as well as the individualistic/collectivistic beliefs of the population.

This research creates several possibilities for further research. For example, the study does not explain whether the greater perceived value of case studies by male students is a reflection solely of gender preference, or is also attributable to the specific nature of the course. Further studies should examine this issue in different settings. Furthermore, as no significant relationship was found between extroversion/introversion and preferences for the use of study groups and case studies, a multivariate analysis testing for the effects of the interaction between extroversion/introversion and collectivism/individualism on group and case study-based learning preferences would enhance the findings of this paper.

Appendix

PART 6: TEACHING METHODS AND LEARNING SITUATIONS

This section of the questionnaire relates to your general preferences in a variety of situations. We would like your opinion on each of the following statements. Please choose a number from the following scale to indicate the strength of your preference and enter it in the box next to each question. Please treat the distances between the points on the scale as equal.

1	2	3	4	5	6	7
Strongly agree	Neutral			Strongly disagree		

1. I would prefer the computer-assisted instruction method over the lecture method where the instructor, rather than the computer, is the primary source of instruction. (Note: in computer-assisted instruction, the computer presents segments of instructional material and provides continual evaluation and feedback.. Students respond to the computer on a one-to-one basis with the visual sense being dominant in the learning process.)

2. I prefer interaction with other students in my learning situation

3. I learned more about how to deal with complex conceptual issues of accounting by working in groups than I have learned working on my own

4. My group experience significantly improved my ability to get along with others and understand things from their point of view

5. I do better work in a group than when alone

6. My learning was not enhanced by working with people of lower ability

7. Life is happier if we are independent of other's influences

8. We can get help if we are closely tied to a group

9. For each of the following questions, please circle either an **a** or a **b** to indicate which statement most applies to you:
 - (a) At a party (social gathering) do you
 interact with many people, including strangers.....a
 interact with a few people, who are known to you.....b

 - (b) At parties (social gatherings) do you
 stay late, with increasing energy.....a
 leave early, with decreased energy.....b

- (c) In social groups do you
 keep up-to-date about other peoples' happenings.....a
 fall behind with other peoples' news.....b
- (d) During social telephone calls do you
 rehearse what you will say before you make the call.....a
 not rehearse what you will say before you make the call.....b
- (e) In company do you
 initiate conversation.....a
 wait to be approached.....b
- (f) Do new and non-routine interactions with others
 stimulate and energise you.....a
 tax your reserves (tire you).....b
- (g) Do you prefer
 many friends, each of whom you spend a little time with.....a
 a few friends, each of whom you spend a lot of time with.....b
- (h) Do you
 speak easily and at length with strangers.....a
 find little to say to strangers.....b
- (i) When the phone rings do you
 hasten to get to it first.....a
 hope someone else will answer.....b
- (j) Are you more inclined to be
 easy to approach.....a
 somewhat reserved.....b

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