

# Student Perspectives on the Development of Group Process Skills in Introductory Accounting

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*Accounting educators have, in recent years, responded to calls from the accounting profession to embrace innovative means of teaching and assessment design which challenge student preconceptions of the discipline and which facilitate the development of 'strong interpersonal and analytical skills' in order to promote sustainable learning outcomes amongst accounting students. Drawing on cooperative learning theory, this paper describes the introduction of a group-based project within an introductory accounting course in order to increase student engagement with course related material and to assist in the development of transferable learning skills, such as, communication, problem solving and interpersonal skills. The paper describes the context in which the research takes place, the nature of the course, its learning objectives and educational philosophy, as well as the group assessment task. The questionnaire-based study measures students' perceptions of the relative usefulness of study groups in developing key learning competencies. The findings of the study show that students perceive the major benefit of study groups to be that they enable students to learn from other group members. Furthermore, the students rated the use of study groups highly as a learning method in the course. These findings suggest that accounting educators can use study groups within a structured project, based on cooperative learning principles, to engage learners and to assist in the development of transferable skills, such as communication and interpersonal skills, conflict resolution and problem solving.*

**Keywords:** Study groups, introductory accounting education, cooperative learning, transferable skills development, student perceptions

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## Introduction

The professional environment in which accountants operate has, in recent years, become increasingly complex, leading to significant changes within the profession. Increasing pressure is being placed on the accountant to provide a service that encompasses a broader community responsibility (International Federation of Accountants, 2003). Intensifying this change are the pressures associated with the recent global financial crisis, changes in information and communication technology and the continuous introduction of new accounting standards (Samkin and Francis, 2008). The accounting profession is calling for enhanced 'employability' skills such as critical analytical competence and the ability to communicate and engage with clients, to be embedded within graduates (Albrecht and Sack, 2000; Gordon and Debus, 2002; Hall et al., 2004; Rodrigues, 2004; Cope and Staehr, 2005; Kavanagh and Drennan, 2008; Hancock et al., 2010).

A large body of literature within accounting education describes introductory accounting courses as being delivered to large student cohorts, with multiple areas of interest, which follow an often standardised curriculum dominated heavily by requirements of the accounting profession, prescribed technically-based textbooks and reinforced through traditional methods of delivery and assessment design (Zeff, 1989; Mladenovic 2000; Lucas, 2002; Leveson, 2004; Lucas and Mladenovic, 2006; 2007; Weil and McGuigan, 2010). Despite the study of introductory accounting traditionally proving challenging to students, the discipline is frequently perceived as boring and dull, with an emphasis on numbers and mathematical formulae (Weil, 1989; Gow et al., 1994; Mladenovic, 2000; Lucas, 2000; 2001; Lucas and Meyer, 2005; Lucas and Mladenovic, 2006). Learners consequently fail to comprehend fully the role accounting plays within a 'real-world' context, in which there are varying degrees of subjectivity.

To accommodate the increasing complexity and rapid change experienced by the accounting profession and to foster a deeper approach to learning by students, a call is emerging within the literature for the implementation of innovative teaching techniques that assist in the development of learners' generic skills which are required for the current emerging practitioner (Accounting Education Change Commission, 1990; Albrecht and Sack, 2000; Gordon and Debus, 2002; Hall et al., 2004; Rodrigues, 2004; Cope and Staehr, 2005; Lucas and Mladenovic, 2006; Kavanagh and Drennan, 2008). The student diversity, prescriptive curriculum design and large classroom delivery to introductory accounting cohorts, coupled with pressure from professional accounting body's technical requirements, presents challenges for the teaching staff to cater adequately for the varying needs of all students and to create an optimum level of technical accounting content delivery, accompanied simultaneously by generic learning skills' development.

The challenge presented to introductory accounting educators is thus to incorporate a heightened level of skills' development transfer parallel to the acquisition of technical accounting knowledge. This challenge is being met partly by employing a teaching philosophy that is active in nature, engaging students in an integrative and interactive classroom environment (Biggs, 2003; Ramsden, 2003). This change in teaching emphasis is required to ensure that prospective

accountants are equipped with the necessary skills to survive in the current environment (Accounting Education Change Commission, 1990). Harwood and Cohen (1999) describes the need to engender lifelong learning skills in students by focussing not on what teachers teach, but instead on how students learn.

Within this context, students must also embrace the change in accounting education practice, taking an active role in their learning. Classroom-based pedagogies of engagement, such as cooperative and problem-based learning, are becoming increasingly popular in undergraduate education (Barkley et al., 2004; Duch et al., 2001; Johnson et al., 1991; MacGregor et al., 2000). Smith et al., (2005) emphasise the importance of students' being active learners, not only to achieve a deeper approach to learning, but also to network with their peers and to build a sense of community within a course. This idea has also found support in the literature from a social constructivist point of view; students collaborate and share knowledge with each other through their interaction in the learning environment, in order to develop a commonly shared understanding (Vygotsky, 1962; 1978; Wenger et al., 2002). Embracing such a collaborative educational pedagogy within accounting courses enables learning to occur between both the learner and the information (the course materials, textbooks, research papers) and between the learners. To achieve this desired level of student interaction, undergraduate courses need to be redesigned to focus on a student-centered experience, in which the facilitator relinquishes control and guides students through prepared learning activities. Adler (1982) concurs, stating that all genuine learning is active, a process of discovery where the student is the main agent, not the facilitator. Students must "talk about their learning, write about it, relate it to past experiences [and] apply it to their daily lives [to] make what they learn part of themselves" (Chickering and Gamson, 1987, p. 3).

With a heightened level of access to technology and less time taken to participate in formal and informal team activities, such as recreational sports, drama and toastmasters' activities, the current student population coming to university is potentially less equipped than its predecessors with respect to group processing and interpersonal skills (Jewels and Albon, 2007). An innovative teaching technique that enables the development of transferable learning skills, such as, communication and interpersonal skills, conflict resolution and problem solving, is cooperative learning and the use of study groups (Cottell and Millis, 1993; Ballantine and McCourt Larres, 2007, 2009). While cooperative learning in accounting education has received extensive attention in the literature, group assessment within a cooperative learning environment has received much less attention (Ballantine and McCourt Larres, 2007). This is particularly apparent with respect to the embedding and scaffolding of group processing skills, one of the key principles in cooperative learning (Johnson et al., 1991).

This study addresses this gap by describing the comprehensive integration of group processing skills with accounting and finance-related content, within a group-based assessment activity spread over 8 workshops. Group processing activities were embedded and taught alongside accounting-specific course work, in order to provide introductory accounting students with direct, clearly-explicated support to develop their group processing skills in an introductory accounting

course. By engaging students and enabling them to derive the numerous benefits of group learning (Weil et al., 2000), the use of a group assessment workshop programme is also an active application of the principles of group-based learning and competency development which underpin the Professional Accounting School (PAS) programme for chartered accounting candidates in New Zealand.

The study measures students' perceptions of the relative usefulness of this teaching resource in developing key learning competencies. Data for the study were collected by means of a questionnaire administered to students at the conclusion of the course. The data were analysed to determine the greatest benefits derived from the use of the study groups, as ranked by the students. The results of the analyses show that students perceive the major benefit of study groups to be that they enable students to learn from their fellow students. This finding was the same for both female and male students, although female students in most cases ranked the benefits of study groups more highly than male students. Furthermore, the students rated the use of study groups highly as a learning method in the course.

The rest of the paper is organised as follows. Relevant literature on cooperative learning and the use of study groups, which discusses and describes the advantages and disadvantages associated with these teaching methods, is reviewed next. This is followed by a description and discussion of the background to the research, the group assessment design and the research methodology employed. The findings of the study are then discussed and analysed, with the conclusions and limitations presented in the final section.

## **Literature Review**

This section of the paper provides a review of the literature relating to cooperative learning in accounting education and the use of group work, discussing and describing the advantages and disadvantages associated with these teaching methods. The review will encompass both descriptive and empirical studies.

Cooperative learning is based upon the concept of learning groups, requiring both the positive interdependence and individual accountability of group members (Johnson and Johnson, 1987; 1990; Davidson and O'Leary, 1990; Johnson et al., 1991; Peek et al., 1995; Ellis and Fouts, 1997). The teaching methodologies are not mutually exclusive, but are highly interrelated. The increased interest in these new pedagogical approaches in accounting education is, in part, a response to the needs of employers. Pronouncements by the accounting profession (see for example, Bedford et al., 1986; Arthur Andersen et al., 1989; AECC, 1990; IFAC, 1996; Albrecht and Sack, 2000) highlight deficiencies in current graduates' transferable skills, calling for more innovative teaching of accounting, to facilitate the development of these skills. Transferable skills can be described as 'employability' (Woods et al., 2000) skills used in the application of knowledge. These skills are not necessarily job specific, but rather develop across all industries and employment levels (Woods et al., 2000). Albrecht and Sack (2000) provide guidance as to the types of generic skills most desired by the accounting profession. These skills include, in order of importance, written communication,

analytical and critical thinking, oral communication, information technology, team work, decision making, interpersonal skills, leadership, continuous learning, project management and professional demeanour. The reports highlight a common emphasis being placed by accounting educators on the more technical aspects of the discipline at the expense of work-ready, employability skills' development.

This call from the accounting profession has been reflected in recent accounting education literature (see, for example, Gordon and Debus, 2002; Hall et al., 2004; Rodrigues, 2004; Cope and Staehr, 2005; Kavanagh and Drennan, 2008; Hancock et al., 2010). Prior research indicates that these 'employability' skills are under-developed within accounting graduates (Matthews et al., 1990; Lovell, 1992; May et al., 1995; Adler and Milne, 1997a, b; Hassall et al., 1998; Kavanagh and Drennan, 2008).

As the accounting profession mobilises, responding to the current business environment, one of the more critical transferable skills required by the professional accountant is the ability to communicate and engage with clients, which is developed through strong communication and interpersonal skills (Ravenscroft et al, 1999; IFAC, 2003; Kavanagh and Drennan, 2008; Hancock et al., 2010). This need has recently been summarised in an American report by Robert Half International Inc (Next Generation Accountant, 2007):

“To succeed in tomorrow’s accounting, finance and audit environments, council [Financial Leadership Council] members said professionals need a wider range of skills than at any time in recent memory. Well-developed financial and technology abilities remain essential, but strong interpersonal and analytical skills are increasingly crucial for success ...”

To develop these transferable skills in accounting students, educators need to embrace the use of appropriate pedagogical techniques, such as study groups and cooperative learning, that will enhance learning and develop appropriate interpersonal skills (Porter and McKibben, 1988; Arthur Andersen et al., 1989; AECC, 1990; Cottell and Millis, 1993; 1994; Peek et al., 1995; Adler and Milne, 1996; Ravenscroft et al., 1997; Tempone and Martin, 1999; Dyball et al., 2007; Gammie and Matson, 2007; Ballantine and McCourt, 2007; 2009).

Cooperative learning involves students working collaboratively in small groups towards the achievement of a common task, with their interaction based upon positive goal interdependence and individual accountability. In order for a cooperative learning environment to exist, a group needs to feel that it is working towards a common goal, whilst still maintaining a level of individual accountability for each group member’s own learning. In this way, students can work cooperatively with a vested interest in each other’s learning, as well as in their own (Davidson and O’Leary, 1990; Cottell and Millis, 1992; 1993; 1994; Johnson and Johnson, 1994; Hite, 1996; Gillies, 2003).

Cooperative learning in groups can be distinguished from other less structured, small group activities by the way in which the groups are organised in order to

meet five key cooperative learning principles, namely, positive interdependence within the group with members working positively towards a common goal, believing that they require each other to achieve the task and to contribute to each other's learning; individual accountability, whereby individuals retain responsibility for their own learning and cannot take advantage of group performance, as each member is partly responsible for the completion of the group task; face-to-face interaction, where group members support each other's learning, assisting one another with understanding and completing the group activity; the development of communication, interpersonal and small group skills; and group processing, for example, self-monitoring and reflection, to develop skills and enhance the participation levels of all of the group members (Johnson and Johnson, 1987; 1990; Davidson and O'Leary's, 1990; Johnson et al., 1991; Peek et al., 1995; Ellis and Fouts, 1997).

Numerous descriptive studies examine cooperative learning in accounting. In implementing cooperative learning in the classroom, Cottell and Millis (1992) found that students participated enthusiastically in the assigned activities and reported preliminary evidence that students learned more about accounting by cooperative learning than in traditional classes. Cottell and Millis (1993) further describe how to implement cooperative learning in accounting, providing numerous examples of group formation and its successful usage. Peek et al. (1995) describe the development of four cooperative learning lessons in management accounting, while 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.

Several debates about the merits or otherwise of cooperative learning have 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, however, that some students feel negatively about sharing grades and that faculty may believe that cooperative learning may result in a loss of information value in grades. Ravenscroft (1997a) identifies several unanswered questions which relate to weaknesses in the existing research on cooperative learning, for example, the research features numerous uncontrolled variables, such as teacher personality, students' age, student expectations and the widespread use of convenience samples.

Holt et al. (1997a) 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 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 withdraw from accounting programmes.

Ravenscroft (1997b) argues that Holt et al's (1997a) 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.

Some empirical studies examine the use and effectiveness of cooperative learning, groups and the case method, and students' perceptions of these teaching methodologies. Caldwell et al. (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 et al. (1996) also found that students' perceptions of accounting before and after participating in cooperative learning improved and 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. Similar findings have been reported by Tanner and Lindquist (1998). Caldwell et al. (1996) do not, however, find either an improvement in perceptions, or in performance, 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. (1995) do not find a significant difference in student perceptions for the different grading systems. A more recent study, Clinton and Kohlmeyer (2005), also advocates the use of cooperative learning, finding a number of positive benefits from adopting such a learning environment with undergraduate cost accounting students, including increased enthusiasm in the study of management accounting, enhanced motivation to learn and an improvement in students' problem-solving skills.

Parry (1990) examines the effects of assigned study groups on study effort and examination performance in two graduate-level exams in an introductory accounting course. 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 this may be because 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, 1993). In respect of the second exam, three weeks after the first one, 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.

Hite (1996) finds that students participating in group mid-term tax 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 'free-loading' effect. Hite (1996) also finds that students participating in group mid-term exams have more positive attitudes towards the instructor and the course. Gabbin and Wood (2008) replicate and extend the group exam cooperative learning technique used by Hite in her 1996 study in an Intermediate Accounting II course. The researchers found that there was no significant difference in students' scores between the treatment and control groups. Lancaster and Strand (2001) report on the perceptions of business students enrolled in a ten-week managerial accounting course. The researchers found no differences in the perceptions of students engaged in a cooperative learning environment compared to those in a more traditional lecture-based course structure.

The literature (see, for example, Johnson and Johnson, 1987; 1990; 1994; Johnson et al., 1991; Spalding, et. al, 1999; Tempone and Martin, 1999; Walker, 2001; Ballantine and McCourt Larres, 2007; 2009; Clinton and Smith, 2009) identifies numerous advantages and disadvantages associated with the use of cooperative learning and study groups in education. The main advantages and disadvantages are summarised in Table 1.



**Table 1. Cooperative learning and the use of study groups: advantages and disadvantages**

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Advantages
Supporting and enhancing communication and interpersonal skills' development
Increasing active participation in and ownership of learning
Gaining insight into group processes and group dynamics
Enhancing student perceptions of the course
Promoting student autonomy
Encouraging exposure to other students' viewpoints
Developing problem solving and critical thinking abilities
Enhancing the moderation of ideas and content
Facilitating learning from experience

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Disadvantages
Student resistance to group learning
Students' negative attitudes to grade sharing
Academic staff's perceptions of a loss of control over invigilated work and therefore a dilution of the quality of the course, with associated higher grades
Conflict within the group, leading to the inability to complete the learning task
The 'free-loading' effect
A reduction in mental effort by some group members hindering group progress
Inefficient allocation of scarce student time

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According to Ballantine and McCourt Larres (2007), "while an extensive literature exists that explores cooperative learning in accounting (see for example, Cottell and Millis, 1993; Ravenscroft et al., 1995; Peek et al., 1995; Caldwell et al., 1996; Hite, 1996; Adler and Milne, 1997a; Ravenscroft et al., 1999; Keddie and Trotter, 1998; Usoff and Nixon, 1998; McConnell and Sasse, 1999; Ramsay et al., 2000; Lancaster and Strand, 2001; Strand Norman et al., 2004) group assessment within a cooperative learning environment has received much less attention to date" (p. 164). Ballantine and McCourt Larres (2007) examine United Kingdom students' attitudes towards cooperative group assessment in an advanced management accounting final year undergraduate accounting degree module. Their findings reveal a positive student attitude towards the use of group assessment, with participants perceiving an enhancement of their interpersonal, communication and problem-solving skills. Ballantine and McCourt Larres (2007) also reported students' perceptions of skills' development according to their academic ability, finding only one difference related to less able students feeling that their group experience had contributed more to their academic improvement than the higher achieving students. Dyball et al., (2007) also found evidence, when investigating students' perceptions of group-based assessment in a large, second year Australian accounting cohort, of students' perceiving group work positively, both as a tool to develop their transferable skills, as well as a means to develop an

awareness in students of the need to develop these skills. Ballantine and McCourt Larres (2009) report on the differing perceptions of interpersonal and communication skills' enhancement between accounting students who have experienced simple group learning and those who have experienced cooperative learning. Their results indicate that the cooperative learning cohort perceived that its learning experience was significantly more effective at developing interpersonal and communication skills than that of the simple group learning cohort.

These studies investigate one of the key principles of cooperative learning emphasised in much of the literature, namely, the development and facilitation of communication, interpersonal and small group skills (Johnson and Johnson, 1987; 1990; Johnson et al., 1991; Peek et al., 1995; Ellis and Fouts, 1997). Students need to be provided with the opportunity to learn and develop such skills, with academics placing equal importance on transferable learning skills, seeing them as an integral part of curriculum design (Jones, 2010). The literature in accounting education, however, provides little – or no - guidance on how these skills should be embedded and scaffolded within a group-based teaching and assessment project. This study aims to address and contribute to this gap in the accounting education literature by describing the comprehensive integration of group processing skills and accounting content within an assessment activity in an introductory accounting decision-making course. The methodology employed in conducting the research is described next.

## **Research Methodology**

### **Background to the Study**

Acct 102, Accounting and Finance for Business, is taught in the first year of a business degree at Lincoln University, New Zealand. The course is mandatory for all accounting major students who wish to satisfy the requirements of the New Zealand Institute of Chartered Accountants (NZICA)<sup>1</sup> and is also a core paper within the commerce degree programme. The aims of the course, which focuses primarily on a decision-user appreciation of financial statements, are to provide an understanding of the basic concepts underpinning the preparation and analysis of financial reports and to apply these concepts to the interpretation and management of accounting data.

As Acct 102<sup>2</sup> is mandatory in the commerce degree, the course is run three times per annum; once in semesters 1 and 2 and also in January summer school. Approximately 500 students enrol in the course each year, with a roughly equal gender split and an increasing number of mature learners. The student population can be classified into three main groups, namely, accounting major students,

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<sup>1</sup> The New Zealand Institute of Chartered Accountants (NZICA) is the professional accreditation body for chartered accountants in New Zealand.

<sup>2</sup> In 2009, Acct 102 was changed to Acct 103, Financial Information for Business. There were some minor changes to the course content, but the learning objectives remained fundamentally the same.

agricultural and life science students and students enrolled for other business major areas of study.

The course emphasises critical decision-making and the development of related competencies. Facilitating the attainment of these objectives and competencies requires the active engagement of students, primarily by way of discussion. A proven method, as discussed previously, of encouraging critical discussion and debate is the use of group work and cooperative learning in assessment (Ballantine and McCourt Larres, 2007; 2009; Gammie and Matson, 2007). The Professional Accounting School (PAS) of the NZICA, which commenced in 1998, makes extensive use of group learning and case studies (Weil et al., 2004) to facilitate the development of eight core competencies<sup>3</sup> which underpin the programme. The competencies include: solve business problems, communicate effectively, be ethical, access, analyse and synthesise information, apply critical thinking, work in teams and demonstrate leadership, integrate knowledge, and maintain currency of technical skills (ABEL, 2008).

Each competency has numerous sub-competencies, for example, *work in teams and demonstrate leadership* has five sub-competencies, two of which are to lead teams effectively to reach a resolution to selected management/organisational issues and to develop interpersonal skills. Three of the five sub-competencies have further sub-competencies, for example, sub-competency 6.4, develop interpersonal skills, lists *inter alia*:

- 6.4.1 Managing team dynamics (roles/characters)
- 6.4.2 Managing different cultural perspectives
- 6.4.3 Working within diverse teams, and
- 6.4.9 Managing conflict.” (ABEL, 2009, p. 20)

The implementation of group learning in Acct 102, through the inclusion of a comprehensive, group-based project, with numerous cooperative learning features, commenced in 2008. Through encouraging critical discussion and debate, the objective of introducing the group project was not only to enhance the students' understanding and ability to apply the theoretical and technical aspects of certain topics, but also to facilitate the development of some of the core competencies required by the NZICA (ABEL, 2008), most notably working in teams, solving business problems, communicating effectively and applying critical thinking.

## **Implementation of the Group Project in Acct 102**

The group learning project was introduced into Acct 102 as an 'industry perspective workshop programme' comprised of eight group assessment tasks that were delivered over a ten week period, during a regular semester<sup>4</sup>. The workshops were held on a weekly basis to support the teaching programme, by offering a

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<sup>3</sup> The competencies have been identified by NZICA as those required by chartered accountants.

<sup>4</sup> Lincoln University operates a 12-week semester in semesters 1 and 2 and a five-week semester during summer school. The time restriction meant that a modified version of the group project was implemented during the summer school programmes.

smaller group meeting environment (approximately 20 students per workshop), in which group discussion and presentations focused on an industry perspective task, which was relevant to the prior week's learning material. The workshops enabled a more student-centred approach, as the tutors used a more facilitative approach than the one typically used in workshops. The group assessment tasks were designed to focus on the accounting and finance content, as well as on group processing skills, in order to provide students with the necessary learning and development required to progress with further academic study and to assist them with their eventual transition to the accounting profession. This integration of content and skills development in the group project design is illustrated in Figure 1.

(Insert Figure 1 about here)

The group assessment tasks utilise the Financial and Management Accounting and Financial Management content outlined in Figure 1 and incorporate this into a project that requires student groups to design their own business organisation and complete activities that build and develop both their content and group process knowledge, in a continuous narrative over the ten-week period.

At the beginning of the workshop programme, in week two, students were asked to form self-selected<sup>5</sup> groups of between three and five members. The students remain in these groups for the duration of the semester. Students are required to complete activities each week, which cover both accounting and finance content and group processing skills, and to submit their completed documentation for marking. The group submissions were reviewed by the teaching staff and feedback provided to the student groups at the end of each week. This group work project contributed 10 per cent to a student's final grade for Acct 102.

The embedding of the group processing skills within the assessment tasks can be illustrated by describing one of the group assessment tasks<sup>6</sup>. Workshop two, for example, focuses on goal setting and project planning, within the context of organisational design. The Workshop two handout provides students with explanatory material, detailing the importance of identifying and setting goals within a team and some guidance on how best to achieve these set goals. This information is then related to the New Zealand business environment, with students required to discuss key issues business owners need to consider when starting up their organisation, namely, types of skills, abilities and resources required, the information to be collected and monitored on a regular basis, likely users and formats of this information and the likely form of business ownership. When carrying out this task, students are expected to complete a six step goal-setting and planning exercise in which they will construct a goal planning table which will form part of their written assessment for the project.

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<sup>5</sup> Although there is extensive literature which states that in order for cooperative learning to occur, students should be selected into groups by the instructor so that groups remain heterogeneous and diverse (see for example, Cottell and Millis, 1993; Gibbs, 1995; Stein and Hurd, 2000), in this study, students were allowed to self-select, as the course was at an introductory level.

<sup>6</sup> The group assessment tasks are available from the authors on request.

The five main principles of cooperative learning derived from the literature, namely, positive interdependence, individual accountability, face-to-face interaction, development of communication and group skills and group processing and monitoring, were used to inform the group project design (Johnson et al, 1991). Positive interdependence was achieved by structuring the assessment activity around the construction of a business enterprise in which students depended on each other's input and resources (similar to a business partnership model) and, as the assessment was graded as a group, they had a vested interest in working together to successfully complete the task. To enhance positive interdependence further, in Workshop one students were required to discuss effective and ineffective group behaviour and to produce a group contract. The contract documented expected group behaviour and rules, nominated group role identification, provision of contact details and addressed members' individual expectations, in an attempt to reduce future conflict, free-riding and non-attendance at group meetings. The group constructed contract was supplemented further by individual group meeting cover sheets that were required to be submitted with each project, clearly documenting the meeting's objective(s), required duties for each group member, accomplishments and outputs of each meeting and each group member's signature.

Individual accountability was maintained by asking students to attempt all group project tasks individually, prior to meeting as a group to discuss their ideas and to compose a joint submission for grading. All students' individual attempts were required to be attached as an appendix to the group project submission. This enabled individual students to retain the responsibility for their own learning, limiting the free-riding aspect associated with group work (Cottell and Millis, 1993; Holt et al., 1997a). To further enhance individual accountability, group members were each required, at the end of the group project, to complete a peer evaluation for their respective group members and for themselves (Freeman, 1995). The peer evaluation comprised of five sections, namely, group meeting attendance, timely completion of work, active participation, cooperation within a group and an overall assessment of each member's overall contribution. The instructor would then use the peer evaluations to adjust student grades accordingly.

Thirdly, in order to facilitate face-to-face interaction, to enable group members to support each other's learning, assist one another with understanding and completion of the task, it was decided to create the weekly workshop meeting by utilising the scheduled 'tutorial' hour that had been used previously to provide textbook style problems. This enabled the group task to be scheduled within the normal operating parameters of the course and not to conflict with students' other commitments and to maximise students' face-to-face participation. These workshops were facilitated by tutorial staff, who were required to assist with the students' group processing and decision-making, if required.

Fourthly, in order to develop communication, interpersonal and small group skills in the students, it was decided to embed key group processing skills within the context of the group tasks. This skill integration was modeled on the work of Fowler et al, (2006). Students were taught and assessed on the group process

parallel to the accounting and finance-specific content, with the clearly explicated intention of developing these skills and making them an integral part of students' learning (Jones, 2010).

Finally, working within groups provides ongoing opportunities for reflection and for learning about oneself. In order to enhance their group processing skills, students were required to reflect on their group learning in several different ways, namely, by completing group meeting cover sheets, in which a record of attendance, participation and accomplishments was kept, preparing summative peer evaluations, assessing their own group processing ability and that of their peers, and completing a reflective exercise within the last group task, in which the students finish a group-ending exercise and then individually reflect on attributes such as content and process contributions to the group, effective and ineffective attributes of the group, future skills' development and the raising of awareness of future group expectations.

For each of the eight group assessment tasks, students were required to submit a title page (including the title of the assessment task and the names and student identification numbers of the group members), the group answer for grading, an appendix containing the individual members' initial work and a group meeting cover sheet. Each student was provided with an overall group grade for each of the assessment tasks, contributing 10 per cent toward the student's final grade. This was then adjusted in line with the students' peer evaluations.

### **Research Objective**

The study investigates the usefulness of study groups in teaching as perceived by introductory accounting students. More specifically, the study is designed to observe the perceived relative usefulness of study groups for imparting a set of 16 desirable skills to the students. The study also investigates a possible disparity of opinion among the students across gender.

### **Instrument Design and Data Collection**

The study investigates the usefulness of study groups in teaching as perceived by introductory accounting students. More specifically, the study is designed to observe the perceived relative usefulness of study groups for imparting a set of 16 desirable skills to the students. The study also investigates a possible disparity of opinion among the students across gender.

A questionnaire was designed for administration to the target population. The questionnaire had two parts. Part 1 requested demographic information in respect of student name, gender, age, country of origin, first language and academic year status. The main part of the questionnaire - Part 2 - contained 28 questions about the use of study groups in the course. To minimise variations in students' responses due to different interpretations of the term 'study group', it was defined in the questionnaire as 'two or more people working together on an academic task.'

The 28 questions were based on those used in two previous studies (Weil et al., 2000 and 2001). Sixteen of the 28 questions related to desirable skills and abilities purportedly developed through the use of study groups (see questions 6-16 in Appendix I). The list of questions is not exhaustive, but includes the benefits of cooperative learning and study groups most frequently cited in the literature, namely, interpersonal skills, critical review of information, oral communication and student engagement and motivation (Johnson and Johnson, 1987; 1990; 1994; Johnson et al., 1991; Spalding, et. al, 1999; Tempone and Martin, 1999; Walker, 2001; Ballantine and McCourt Larres, 2007; 2009; Clinton and Smith, 2009).

The 16 skills and abilities can be organised into four subscales: *Interpersonal*, which relate to working with other people, *Growth and development*, relating to self-reflection and attitudinal changes, *Communication*, relating to different forms of communication and *Problem-solving skills*, relating to critical thinking. The classification of the 16 skills and abilities into these four headings is presented in Table 2.<sup>7</sup>

**Table 2. Subscales of skills and abilities**

<i>Interpersonal</i>	<i>Growth and development</i>	<i>Communication</i>	<i>Problem solving</i>
Getting along with people	Self esteem	Persuasion skills	Learn from group members
Interpersonal skills (interacting smoothly with others)	Personal bias awareness	Questioning skills	Revising your prior views
Tolerant of differing points of view	Think independently	Listening skills	Debate issues critically
Conflict resolution skills	Attitude towards subject		
Active participation	Awareness of strengths and weaknesses		

The questions do not appear under these headings in the questionnaire, but are randomised.

Respondents were asked to indicate the extent to which the use of study groups helped them in realising or enhancing each of the listed skills, by rating the strength of their preference on a seven-point Likert scale ranging from 1 (not at all) through 4 (moderate) to 7 (extensively). The remaining 11 questions asked students about the formation and dynamics of study groups, as well as the perceived value of study groups to them as a learning method, measured on a scale ranging from 1 (no value) to 7 (high value) and through narrative questions.

<sup>7</sup> The subscales are not entirely mutually exclusive, as it is possible to classify some of the skills under more than one subscale. Where this is the case, skills are classified under the 'best-fit' subscale.

Data were collected by the administration of the questionnaire to the Acct 102 student population in the last group task submission in Workshop 8 in Semesters 1 and 2 of 2008 and Semester 1 in 2009. Four hundred and three respondents completed the questionnaire. Completion of the questionnaire was voluntary.

## **Data Analysis**

The mean usefulness of study groups for teaching each skill was computed by adding up the point values assigned by all respondents and then dividing the total by the number of respondents for the group. The skills were then ranked in descending order of mean importance (Appendix II). Table 4 (Panel A) shows the mean rankings for the five highest and five lowest ranked skills. The table also shows the level of agreement among the students, as measure by the standard deviation of their responses, on each measurement variable. In addition, percentages of all respondents who consider study groups to have been extremely useful (responses 6 and 7 on the Likert-like scale) in developing or improving each skill are presented. Panel B of Table 4 reveals the same information across gender. To aid the analysis, the skills are presented in the order of ranks given by respondents in an 'experimental grouping' of female for gender. The ranks given by members of the 'control group' for gender are presented in Panel B for comparative purposes.

Further statistical analysis was carried out to isolate possible gender differentials in the perceived impact of the study group method on the development or improvement of each type of skill. A t test was used to explore possible differences in the effect of the study group method across gender. Summarised (items of significance only) results of the test are presented in Table 5.

The final step in the analysis involved applying appropriate statistical tests to explore the perceived effectiveness of study groups in developing skills when organised into related subscales. Possible differentials in students' perceptions of the subscales were investigated. The *Friedman* test was employed to investigate possible differences in students' overall perceptions, while a t test was applied to gender-based differences. The results of the tests are presented in Table 6.

## **Results and Discussion**

The survey and statistical test results are presented in this section. The preliminary statistics are presented first, followed by substantive statistical tests and discussion. Due to the nature of the data, all tests were nonparametric. The discussion of the results is in the following order: first, preliminary statistics on respondents' demographic details and their ranking (overall and gender-based) of the 16 individual benefits of study groups are presented; next, the results of substantive nonparametric tests for differences in students' perceptions with respect to individual skills are presented; finally, the results of tests of students' perception of subscaled benefits of study groups are discussed. In all cases, where applicable, overall results are presented first, followed by discussions of



differences attributable to gender.

### Preliminary Statistics

Some demographic details on the student respondents to this study are presented in Table 3. Of the 395 students who disclosed their gender, 156 (39.5%) are female, while the remaining 239 are male. The age of the student respondents ranged from younger than 17 to older than 31. Most of them were either 18 (23%), 19 (28%), 20 (12%) or 21 (8%) years old. Fourteen (4%) students were 30 or older, split evenly between female and male students. These demographics are typical of the cohort normally registered for the mandatory first-year introductory accounting course.

**Table 3. Respondent demographics**

	<i>Gender of respondents</i>					
	<i>Female</i>		<i>Male</i>		<i>Total</i>	
	<i>Count</i>	<i>Per cent*</i>	<i>Count</i>	<i>Per cent*</i>	<i>Count</i>	<i>Per cent*</i>
Age of respondents						
17 or younger	3	1.9	3	1.2	6	1.5
18	36	22.8	54	22.4	90	22.6
19	48	30.4	63	26.1	111	27.8
20	21	13.3	28	11.6	49	12.3
21	12	7.6	20	8.3	32	8.0
22	10	6.3	12	5.0	22	5.5
23	7	4.4	8	3.3	15	3.8
24	4	2.5	9	3.7	13	3.3
25	4	2.5	9	3.7	13	3.3
26	2	1.3	10	4.1	12	3.0
27 or older	1	0.6	7	2.9	8	2.0
28	1	0.6	7	2.9	8	2.0
29	-	-	2	0.8	2	0.5
30 or older	7	4.4	7	2.9	14	3.5
Subtotal	156	100.00	239	100.00	395	99.0
Gender not disclosed	2	1.3	2	0.9	4	1.0
Total	158	100.0	241	100.0	399	100

\*Percentages do not add up to 100 due to rounding errors

The results of the analysis of respondents' ranking of the perceived relative usefulness of study groups for the development of the 16 individual skills are summarised in Table 4, which highlights the five highest-ranked and five lowest-ranked skills. Panel A of the table presents the results on an overall basis for the 399 students, while Panel B presents gender-based rankings. The results show that, overall, the two highest ranked skills, with means of 4.94 and 4.75 respectively, relate to benefits directly from working with other students, namely, learning from group members and participating actively, respectively. The first benefit falls under the problem-solving subscale in Table 2, with the second a component of the interpersonal skills' subscale. Both skills feature prominently in the literature as two of the main advantages to be derived from the use of study groups, as summarised in table 1 (Johnson and Johnson, 1987; 1990; 1994; Spalding, et. al, 1999; Tempone and Martin, 1999; Walker, 2001). The next three most highly ranked benefits were, in descending order, 'become aware of strengths and weaknesses', 'tolerate different views' and 'listen'.

**Table 4. Ranking of skills (summarised) by positive impact of study groups on their development**

Panel A: All students ( <i>n</i> = 399)						
<i>Rank</i>	<i>Skills<sup>#</sup></i> (question number)	<i>Mean</i>	<i>(S.D.)</i>	<i>Extremely useful<sup>##</sup></i>		
1	Learn from group members (14)	4.94	0.08	41.35		
2	Participate actively (8)	4.75	0.07	34.34		
3	Become aware of strengths and weaknesses (21)	4.68	0.08	36.09		
4	Tolerate different views (10)	4.56	0.08	30.58		
5	Listen (16)	4.55	0.08	32.58		
12	Revise views (18)	4.11	0.08	21.30		
13	Become more aware of biases (12)	4.07	0.08	18.80		
14	Persuade (7)	3.97	0.07	12.78		
15	Attitude (20)	3.91	0.09	22.31		
16	Self-esteem (9)	3.84	0.09	19.05		
Panel B: Gender-based ranking ( <i>n</i> = 399)						
<i>Rank</i>		<i>Skills<sup>#</sup></i>	<i>Female (F)*</i>		<i>Male (M)*</i>	
<i>F*</i>	<i>M*</i>		<i>Mean</i>	<i>(S.D.)</i>	<i>Mean</i>	<i>(S.D.)</i>
1	1	Learn from group members (14)	5.16	0.11	4.78	0.10
2	3	Participate actively (8)	5.06	0.11	4.56	0.09
3	2	Become aware of strengths and weaknesses (21)	4.85	0.13	4.56	0.10
4	5	Listen (16)	4.68	0.13	4.48	0.10
5	4	Tolerate different views (10)	4.66	0.11	4.48	0.10
12	9	Resolve conflict(s) (13)	4.20	0.13	4.20	0.10
13	12	Become more aware of biases (12)	4.09	0.12	4.05	0.10
14	14	Persuade (7)	4.08	0.12	3.90	0.09
15	15	Attitude (20)	4.06	0.15	3.82	0.12
16	16	Self-esteem (9)	4.01	0.15	3.74	0.11

<sup>#</sup> The descriptions of the skills in this table are précis of the questions in the questionnaire. Each question is preceded by the words, 'To what extent do you believe that the use of study groups in Acct 102: Accounting and Finance for Business has....' and is followed by a verb. For example, 'To what extent do you believe that the use of study groups in Acct 102: Accounting and Finance for Business has encouraged you to be tolerant of differing points of view?'

<sup>##</sup> The proportion of respondents indicating that they found case studies extremely useful by ticking either 6 or 7 on the Likert scale.

\* *n*(Female) = 158 and *n*(Male) = 241.

The least perceived benefit of study groups is helping students to improve their self-esteem. This outcome is not unexpected, as the literature does not mention this as being a major potential benefit of using study groups.

With respect to gender-based perceived benefits of study groups for developing the 16 desirable skills (Panel B of Table 4), both male and female students agree on the three major benefits of study groups, although the order is reversed for the second and third most highly-ranked benefits; females rank 'participate actively' and 'become aware of strengths and weaknesses' second and third respectively, whereas males rank them in the reverse order. The least favourably perceived benefits are also similar, with 'increased your self-esteem', 'improved your attitude towards Acct 102: Accounting and Finance for Business' and 'developed your skills of persuasion' ranked last, second last and third last respectively by both female and male students.

The largest differences in rankings by gender are found for three questions (see Appendix II); 'debate critically' and 'revise views', which are ranked higher (8th and 10th by females) than by males (11th and 13th respectively), and 'resolve conflicts', which is ranked lower (12th) by females, than by males (9th). The mean difference for 'debate critically' is 0.29 and for 'revise views' is 0.29, but is 0 for 'resolve conflicts', suggesting that the two former findings need to be examined further.

It is noticeable that 13 of the 16 skills in Panel A of Table 4 are rated above the midpoint of the response scale, suggesting that students perceive the use of study groups to be capable of developing the great majority of the skills included in the study. This outcome is not surprising, however, as these skills, and their development, were identified in the literature as being the primary benefits to be derived from the use of study groups (Spalding, et. al, 1999; Tempone and Martin, 1999; Walker, 2001; Ballantine and McCourt Larres, 2007, 2009).

### **Substantive Statistics**

The summarised comparison of means (t test) results (Table 5) indicate that there are statistically significant differences between male and female perceptions for five of the potential study group benefits investigated in this study. At the 1% level, females perceive the use of study groups to facilitate active participation in the learning process more than do males. This result is consistent with the exploratory findings reported in table 4. At the 5% level, females perceive the use of study groups to facilitate learning from group members and debating issues critically more than males. Furthermore, at the 10% level, females perceive study groups to have resulted in them revising their views and made them more aware of their strengths and weaknesses in group work than males. Three of the five skills for which significant differences are found - learning from groups members, revising views and debating issues critically - belong to the Problem-solving subscale, while the other two relate to the Interpersonal and Growth and development subscales.

**Table 5. T test for gender-based differences in student perceptions of the positive impact of study groups**

<i>Skills</i> (question number)	<i>Mean</i>		<i>t statistic</i>	<i>p-value</i>
	<i>Female*</i>	<i>Male*</i>		
Participate actively (8)	5.03	4.57	3.511221	0.0005 <sup>a</sup>
Learn from group members (14)	5.16	4.77	2.399205	0.0169 <sup>b</sup>
Revise views (18)	4.26	3.98	1.671503	0.0954 <sup>c</sup>
Debate issues critically (19)	4.39	4.10	2.005419	0.0456 <sup>b</sup>
Become aware of strengths and weaknesses (21)	4.84	4.59	1.737514	0.0831 <sup>c</sup>

\* *n*(female) = 158 and *n*(male) = 241

*a*, *b* and *c* indicate that differences are significant at the 1, 5 and 10% levels respectively.

No explanations for the gender-based differences in perceptions are offered by the literature nor, in particular, for the finding that, for all of the significant differences found, females rate the benefits of study groups more highly than do males. As this finding has major potential implications for pedagogical design – especially with respect to gender considerations - it is an area that could benefit from future research.

Results of a Friedman test (Panel A of Table 6) indicate statistically significant differences in students' perceptions of the efficacy of study groups in developing the four subscales of skills at the 1% significance level. This is a strong indicator of students' abilities to differentiate between the different types of skills and the degree to which study groups are perceived to be useful for the development of each subscale of skills. In other words, students are perceptively conscious of the level and variety of benefits they obtained from their involvement with this mode of course delivery.

The results of a t test to explore the possible influence of gender on students' perceptions of the sub-scaled benefits of study groups are presented in Table 6 (Panel B). One significant difference is reported, namely, problem solving at the 5% level, with female students ranking the usefulness of study groups higher than males. This result confirms the significant differences reported in Table 5 for the three questions which comprise the problem-solving subscale, namely, 'learn from group members, revise views and debate issues critically'.

**Table 6. Tests of differences in students' mean rating of sub-scaled benefits of study groups**

Panel A: <i>Friedman's</i> test of overall differences					
<i>Subscales</i>	<i>Mean rank</i>				
COMM	2.32				
INTER	2.69				
GAD	2.40				
PROBSOL	2.68				
Test statistics					
Chi-square	95.248 (3)		Significance 0.00 <sup>a</sup>		
Panel B: T test for differences by gender					
<i>Subscales</i>	<i>Means</i>			<i>t statistic</i>	<i>p-value</i>
	<i>Female</i> (n = 158)	<i>Male</i> (= 241)			
COMM	4.257	4.159	0.789	0.431	
INTER	4.554	4.375	1.410	0.159	
GAD	4.275	4.102	1.283	0.200	
PROBSOL	4.607	4.305	2.331	0.020 <sup>b</sup>	
Value of study groups	4.385	4.169	1.157	0.250	

*a* and *b* indicate that differences are significant at the 1 and 5% levels respectively. COMM = Communication; INTER = Interpersonal; GAD = Growth and development; PROBSOL = problem solving.

The mean response for all students of 4.261 for question 28 suggests that students perceive study groups to have between 'some value' and 'high value' as a learning method in Acct 102. Female students, with a mean of 4.385, perceive study groups to be more valuable than male students, with a mean of 4.169, but this difference is not statistically significant.

A final validation of the usefulness of study groups as they were used in this study was provided by students' responses to question 31. Of the 381 students who indicated that they intended to continue studying, 272 (71.4%) answered 'yes' to

the question, ‘...do you think that the group work and workshop programme will be beneficial to your future academic studies?’

## **Summary and Conclusion**

The results of the study indicate that, according to students’ perceptions, the use of study groups enhances student learning by helping to develop certain thinking skills and provides benefits identified in the literature (Johnson and Johnson, 1987, 1990, 1994; Spalding, et. al, 1999; Tempone and Martin, 1999; Walker, 2001). The major perceived benefit of the use of study groups is in the way in which they enable students to learn from other group members. This finding validates one of the primary motivations for introducing a study group-based project into the course, namely, to facilitate communities of learning practice (Wenger et al., 2002), in which students learn from each other, within the course. The second most highly ranked benefit is in respect of being encouraged to participate actively in the learning process, followed by being made aware of one’s strengths and weaknesses in group work.

Although the rankings of the benefits of study groups by gender are similar for females and males, the mean scores awarded by females for ‘debate critically’ and for ‘revise views’ were much higher than those awarded by males. Furthermore, significant differences were found between the mean scores in respect of five benefits. At the 1% level, females perceive that study groups encourage them to participate actively in the learning process more than do males, and similarly at the 5% level, in respect of learning from group members and debating issues critically. At the 10% level, females rank study groups more highly than males for resulting in them revising their prior views. It is noteworthy that three of the significant differences (learning from group members, revising views and debating issues critically) fall into the ‘problem-solving’ subscale. Consistent with these results, a significant difference is also found between female and male perceptions for the ‘problem-solving’ subscale, with female students rating it more highly than male students.

The results suggest that study groups, as perceived by students and as used in the Acct 102 group project, do indeed provide learning benefits. Based on the findings of the study, however, accounting educators considering the use of study groups need to reflect carefully on the gender profile of the class.

Furthermore, if educators wish to fully harness the benefits, not only of using study groups, but of doing so within a cooperative learning environment (Johnson et al, 1991), additional issues need to be considered. Of the five main principles of cooperative learning, namely, positive interdependence, individual accountability, face-to-face interaction, development of communication and group skills and group processing and monitoring (Johnson et al, 1991), all of which were incorporated within the design of the group project in Acct 102, only the development of skills was examined in this study. The perceived value to students of the four other principles was not measured in the study.

In conclusion, it is noticeable that much of the accounting education literature focuses on the development of group processing skills at intermediate and advanced levels of accounting (see, for example, Ballantine and McCourt Larres, 2007, 2009; Dyball et al., 2007; Gabin and Wood, 2008). The enhanced facilitation and development of skills such as, improved communication and interpersonal skills, the ability to analyse and think critically, to resolve conflicts and to exhibit leadership, amongst introductory accounting students can promote a more sustainable level of learning that has application both within future areas of students' academic study and their future professional employment.

## **Suggestions for Further Research**

The primary objective of this paper is to measure and report students' perceptions of the benefits of structured study group usage within an introductory accounting course. Although other topics, relating to group formation and decision-making, were surveyed in the questionnaire, students' responses to these questions were not discussed in the Results and discussion section of the paper.

With respect to group formation, students were asked how study groups should be chosen. Two hundred and ninety seven (80%) of the respondents to this question favoured self-selection, i.e. selecting the group members themselves, rather than having the lecturer select the group members. As working with group members of one's choice who are familiar to one may have affected students' responses to the questions about skills development, these results – and their relationship to the perceived benefits of study groups - need further investigation.

With respect to group decision-making, consensus was the preferred mode, with a mean of 5.06, followed by majority voting (with a mean of 4.34) and compromise (with a mean of 4.31). For the three alternatives, females had higher means for consensus and compromise, and males for a majority vote. As students' decision-making styles may have an impact on their perceptions of study groups' benefits, these results also lend themselves to further examination.

One specific finding of the study stands out as deserving of further consideration. This relates to the consistently higher ratings - some of which result in statistically significant differences - given by female students to the benefits of study groups. Another issue worthy of further examination is why the problem-solving subscale, rather than others, is perceived to have benefitted significantly from the use of study groups.

Thirteen of the skills in Appendix II are rated above the midpoint of the response scale, suggesting that the use of study groups is capable of developing the great majority of skills included in the study. Although this finding confirms the benefits of study groups propounded in the literature (Spalding et al., 1999; Walker, 2001), future researchers may wish to design studies that more clearly distinguish between skills on the high- and low-benefit ends of the scale.



This study has not examined the possible impact of intra-group conflict, nor unequal contributions by group members – the so-called ‘free-rider’ or ‘free-loader’ effect - on student perceptions of the benefits of study groups. It has also not considered any other disadvantages, such as those enumerated in Table 1, which students may perceive from the use of study groups. The study has also not considered the challenging question of whether the benefits of group learning are in fact being obtained by students, or are merely perceived by them as being obtained. These are topics for future researchers to explore.

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## Appendix II: Ranking of skills (all) by positive impact of study groups on their development

Panel A: All students ( <i>n</i> = 399)				
Rank	Skills <sup>#</sup> (question number)	Mean	(S.D.)	Extremely useful <sup>##</sup>
1	Learn from group members (14)	4.94	0.08	41.35
2	Participate actively (8)	4.75	0.07	34.34
3	Become aware of strengths and weaknesses (21)	4.68	0.08	36.09
4	Tolerate different views (10)	4.56	0.08	30.58
5	Listen (16)	4.55	0.08	32.58
6	Get along with people (17)	4.45	0.08	30.58
7	Think independently (15)	4.39	0.08	27.57
8	Question (11)	4.24	0.07	21.55
9	Interpersonal (6)	4.23	0.08	18.30
10	Debate critically (19)	4.23	0.08	21.30
11	Resolve conflict(s) (13)	4.2	0.08	20.30
12	Revise views (18)	4.11	0.08	21.30
13	Become more aware of biases (12)	4.07	0.08	18.80
14	Persuade (7)	3.97	0.07	12.78
15	Attitude (20)	3.91	0.09	22.31
16	Self-esteem (9)	3.84	0.09	19.05

Panel B: Gender-based ranking ( <i>n</i> = 399)						
Rank		Skills <sup>#</sup>	Female (F)*		Male (M)*	
F*	M*		Mean	(S.D.)	Mean	(S.D.)
1	1	Learn from group members (14)	5.16	0.11	4.78	0.10
2	3	Participate actively (8)	5.06	0.11	4.56	0.09
3	2	Become aware of strengths and weaknesses (21)	4.85	0.13	4.56	0.10
4	5	Listen (16)	4.68	0.13	4.48	0.10
5	4	Tolerate different views (10)	4.66	0.11	4.48	0.10
6	6	Get along with people (17)	4.48	0.13	4.45	0.11
7	7	Think independently (15)	4.45	0.13	4.32	0.10
8	11	Debate critically (19)	4.41	0.12	4.12	0.10
9	10	Interpersonal (6)	4.35	0.12	4.16	0.10
10	13	Revise views (18)	4.28	0.12	4.00	0.10
11	8	Question (11)	4.24	0.12	4.25	0.10
12	9	Resolve conflict(s) (13)	4.20	0.13	4.20	0.10
13	12	Become more aware of biases (12)	4.09	0.12	4.05	0.10
14	14	Persuade (7)	4.08	0.12	3.90	0.09
15	15	Attitude (20)	4.06	0.15	3.82	0.12
16	16	Self-esteem (9)	4.01	0.15	3.74	0.11

<sup>#</sup> The descriptions of the skills in this table are précis of the questions in the questionnaire. Each question is preceded by the words, 'To what extent do you believe that the use of study groups in Acct 102: Accounting and Finance for Business has....' and is followed by a verb. For example, 'To what extent do you believe that the use of study groups in Acct 102: Accounting and Finance for Business has encouraged you to be tolerant of differing points of view?'

<sup>##</sup> The proportion of respondents indicating that they found case studies extremely useful by ticking either 6 or 7 on the Likert scale.

- *n*(Female) = 158 and *n*(Male) = 241.

**Figure 1.** Integration of content and skills development in Acct 102 group project



