EDU005

Title: Effective teamwork design, implementation and assessment: addressing the need for the acquisition of pervasive skills by undergraduate accounting students

By: Jolandi Gevers and Ilse Lubbe (University of Cape Town)

Category: Refereed

Jolandi Gevers:

Contact address: Room 5.16.2
College of Accounting
Leslie Commerce Building
Upper campus, UCT
Rondebosch

Telephone number: (021) 650 4250

Email address: jolandi.gevers@uct.ac.za

Ilse Lubbe

Contact address: Room 5.16.4
College of Accounting
Leslie Commerce Building
Upper campus, UCT
Rondebosch

Telephone number: (021) 650-2288

Email address: ilse.lubbe@uct.ac.za

This paper is a follow up on the paper we presented during the SAAA regional conference in the Western Cape. It will therefore have similarities with that paper. This has been done due to the requests made by

attendants at the regional SAAA conference. The manuscript or a similar one has not been published and is not, nor will be, under consideration for publication elsewhere while being reviewed for this SAAA conference other than what has been describe above.

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Abstract

Accounting educators and professional bodies are challenged to ensure that accounting courses equip students with the necessary graduate attributes required in business. Such attributes include the ability to work in a team, interpersonal skills, leadership potential and verbal communication. Attaining these skills has also become more important to employers and, like other professional bodies, the South African Institute of Chartered Accountants (SAICA), has included teamwork as one of the pervasive skills to be acquired by students studying towards the Chartered Accountants' (SA) qualification.

The purpose of this paper is threefold. First this study endeavours to help accounting educators by investigating best practices for teamwork and collaborative work as cited in literature, including the importance of effective planning, explicit guidelines and clear assessment of teamwork in an pedagogically appropriate way. Secondly, this paper aims to provide evidence that effective planning, explicit guidelines and clear assessment of teamwork enhances the student's experience of teamwork. Thirdly, the paper aims to demonstrate that cooperative learning and teamwork gives students the opportunity to acquire and demonstrate pervasive skills.

A practical team work assignment given to undergraduate accounting students was used in the research to address the stated goals, together with questionnaires designed to measure the success in achieving them.

Working in a team was found to enhance student performance and lead to the development of pervasive skills such as communication skills, interpersonal skills and willingness to share ideas and recognise limits when completing difficult tasks.

This paper adds value to the accounting academic community as it provides a helpful resource in designing a team work intervention and also shows how such an invention helps in transferring certain pervasive skills to students.

Key words: Teamwork, collaborative work, accounting education, pervasive skills, education, group work, projects.

INTRODUCTION

If structured well, teamwork projects can promote important intellectual and social skills and help to prepare students for the professional working environment in which teamwork and collaboration are increasingly the norm. It has been shown that positive teamwork experiences contribute to student learning, retention and overall academic success (Astin, 1993). Even though the potential learning benefits of working in a team are substantial, academics often make the mistake of thinking that merely adding a teamwork project to their respective courses will result in the desired outcome being achieved. However, academics have to design, to supervise and to assess a teamwork project carefully in order for the learning outcomes to be achieved. In the absence of such deliberate design, the project might fail and result in a negative experience for the students.

Therefore, this paper aims to explore the literature so as to develop a helpful framework to accounting academics of the important factors to consider when designing teamwork and cooperative learning. The paper discusses the design and implementation of an accounting project in order to validate aspects of this framework. The paper seeks to address four research questions:

1. What are the key variables to consider when designing an effective team work intervention?

2. What is considered to be best practice with regards to these variables?

3. Does the implementation of this best practice result in a positive experience of team work by students?

4. Is a team work project a successful intervention in facilitating the transfer of pervasive skills?

STUDY BACKGROUND AND LITERATURE REVIEW

New challenges for the way in which accountants are educated

Historically, aspiring accountants have sought professional qualifications through training and private spare-time study. However, Accounting eventually became accepted as an academic discipline, and from the 1960s onwards, degrees began to be offered by some universities in England and Wales (Sikka, Haslam, Kyriacou and Argrizzi, 2007) and from the 1970s by South African universities (van der Schyf, 2008). The rapid development of the context and dynamics of the global business environment over the last 20 years resulted in a call for changes in the way in which accountants are educated (Jackling and De Lange, 2008), with many commentators criticising the skills set developed by students as graduates of under-graduate business courses. Some of the most vocal critiques in the USA have come from accounting education committees (AICPA, 1999; Albrecht and Sack, 2000) followed by similar concerns in Australia (CPA Australia, 1996, 2005).

These calls identified, in addition to accounting and business knowledge, the need for students to develop and acquire communication, intellectual and interpersonal skills. Deppe *et al* (1991), as cited in Ainsworth (2001), suggest that accounting students must develop competencies in seven areas: (1) communication skills, (2) information development and distribution skills, (3) decision-making skills, (4) knowledge of accounting, auditing and tax, (5) knowledge of business and the environment (6) professionalism, and (7) leadership development. Accounting programmes should therefore prepare students to become professional accountants, thereby developing professional skills, attaining foundational accounting and business knowledge, and learning how to learn.

Accounting professionals and academics have embarked on a process of analysing and critiquing accounting curricula, suggesting that without significant changes to accounting education, future accountants will not receive the preparation they need to meet the emerging needs of business (Ainsworth, 2001). Although some Accounting academics participate in the design of professional

accountancy education curricula, control of accountancy education remains mainly with the professional bodies. In most developed economies, universities seek 'accreditation' for their degrees from the professional bodies, a process that enables accountancy bodies to shape the content of accounting degrees.

Locally, the South African Institute of Chartered Accountants (SAICA) has issued its Competency Framework (SAICA, 2010) which provides detailed guidance to academic programmes and training offices of the core skills and capabilities required by students studying a professional qualification. Pervasive skills, which include ethical behaviour, personal attributes and professional skills, have been identified as an integral part of the skills required by Chartered Accountants (CA(SA)). Other pervasive skills identified by SAICA include:

- demonstrating leadership and initiatives;
- treating others in a professional manner and avoiding conflict of interest;
- appropriate time and task management;
- demonstrating competence and recognising personal limits;
- striving to add value in an innovative manner;
- developing a capacity to listen and be responsive to feedback/criticism; and
- solving problems and making decisions.

Changes in the student body and in the landscape of higher education.

Why is there such an emphasis on the acquisition of pervasive skills now? This question can partly be answered by the fact that television, internet and video games have had a tremendous impact on the lives of contemporary students. In earlier years, students would have spent their afternoons playing outside and participating in sports or other extra-curricular activities that promote social interaction and teamwork skills. Today, however, they spend most of their time on their individual pursuits. The result is that employers and educators can no longer assume that students will obtain the required teamwork skills without any teaching intervention (Jewels and Albon, 2007).

At the same time, there has been a change in the landscape of higher education. Student numbers have increased rapidly, without a corresponding increase in staff. As a result the student to staff ratio has increased and it is not impossible to have large classes of as many as 500 to 800 students for some accounting courses. There is a pressure on educators to maintain quality while having fewer resources and consequently, the quality of teaching and student learning has been affected. The existing large lecture format does not support active learning of the more practical aspects of teamwork and communication skills, making it difficult for educators to demonstrate and for students to acquire these pervasive skills.

At best, higher education could provide the opportunity for students to learn and develop pervasive skills and abilities during undergraduate study. Jackling and de Lange (2009) suggests a 'shared' approach, which require structured work experience and employer involvement which may best be developed outside the university setting and nurtured over time.

This approach forms part of the approach adopted in South Africa, where the curriculum and outcomes of higher education studies in accounting are closely aligned with the professional competencies required by the profession, and these are continued during the structured and focused training of potential chartered accounting (CA) candidates during employment. Steven and Fallows (1998:4) correctly notes that students are concerned that being successful in a university course alone may guarantee their employment chances:

> *"Today's graduates are faced with a quite different employment challenge than that of earlier generations … Research conducted on behalf of the Association of Graduate Employers noted in 1995 that unemployed graduates felt 'short changed' by higher education institutions which had failed to note that the 'rules of the game had changed' and consequently (despite fulfilling the traditional goal of a 'good degree') had not provided them with the essential skills for employment."*

Clearly, students expect higher education institutions to equip them for future employment. It is therefore important for academics to incorporate tools and tasks into the syllabus of the various courses which will equip students with the pervasive skills necessary to be successful in the working environment. We have identified cooperative learning and team work as a possible tool to do this.

Teamwork and cooperative learning

Cooperative learning, though an old idea, has seen a revival of interest in both educational research and in practice over the last 30 years. Cooperation is defined as 'individuals working together to achieve a shared goal' (Johnson, Johnson and Stanne, 2000). In order to promote team skills, one needs to understand that there are fundamental differences between teams and groups (Jewels and Albon, 2007).

Group work is mostly associated with a process where individuals each do their own part of a project and then place their own section within the final task, also known as the jigsaw approach (Biggs, 2003). However, with this approach, there is a concern that the students will not apply themselves in acquiring the necessary team skills such as the establishment of a shared identity with other team members. Teamwork, on the other hand, requires the acquisition and demonstration of specific abilities. The word 'team' is connected to areas such as sports where individuals have to work together in order for the team to succeed. Teams are characterised as groups with "members exhibiting commitment, mutual accountability and possessing complementary skills and competencies" (Shankar and Seow, 2010). Throughout this paper the word *team* is used rather than *group*. A great deal of the group work currently being conducted within institutes of higher education really does not consist of teamwork at all, yet **team** learning is crucial since teams, not individuals, are the fundamental learning unit in modern organizations (Senge, 1992).

Motivations for using cooperative learning/teamwork

The inclusion of teamwork is an important way of equipping students for their future career. The ability to work in a team not only affects a graduate's employability but also his or her chances of being promoted. A study done in Europe with 300 managers from 25 institutions in different nations found that, on average, the ability to be a team player ranked as the second most important reason for being promoted (Segalla, Hec and Flory, 2007). Johnson and Johnson (1987) viewed the ability to work in a team to be very important as it will influence a student's *'employability, productivity and career success'*.

Extensive research done on teamwork has shown that it had a significant impact on student achievement (Johnson, Johnson and Stanne, 2000). Research also shows that teams outperform individuals working on the same assignment (West, 2012). Other benefits of teamwork include:

- developing higher-level thinking skills (Bligh 1972, Kulik and Kulik, 1979, Smith 1977, 1980);
- increasing student awareness (Breen, 1981);
- enhancing student satisfaction with the learning experience (Breen, 1981);
- promoting positive attitudes toward the subject matter (Breen, 1981);
- developing students' skill in oral communication (Breen, 1981);
- developing student social skills (Breen, 1981);
- promoting student self-esteem (Johnson and Johnson, 1987, Slavin 1987);
- promoting positive race relations (Slavin 1980); and
- providing an opportunity for the students to learn pervasive skills such as time management, written communication, negotiation and evaluation (Jacques, 1991).

In a study done on graduates' and educators' perceptions of graduate skills, conducted in higher education institutes in Great Britain, Slovenia, Austria and Romania, several positive responses were documented from graduates regarding teamwork and vital team working skills (Andrews and Higson, 2008).

Another study done at Queen's University in the United Kingdom showed that final year accounting undergraduate students perceived cooperative learning in a team setting to be beneficial in developing the pervasive skills required by the profession (Ballentyne and McCourt Larres, 2007).

These studies illustrate that the inclusion of teamwork is both useful and necessary in today's global society. They show that those involved in accounting education at an undergraduate level should be aware of the need to provide education and training which delivers these pervasive skills. The next section of the paper will consider specific issues regarding the implementation of teamwork into a curriculum.

Teamwork from a student's perspective

The results of studies performed on students' perception of teamwork are contradictory. A number of studies point to the fact that students in general have a positive perception of teamwork. Meyers and Meyers (2012) reported that students, whether in self-selected teams or in random selected teams, both reported positive experiences. Chapman and Van Auken (2001) found in a study across 32 educational institutions that students' overall attitude towards their team experience was relatively positive (5.22 on a 7-point scale). Similarly, Payne, Monk-Turner and Smith (2006) found that students generally hold favourable impressions about group work.

This is an unexpected result for most researchers and instructors. Anecdotal evidence and experience suggest that students harbour very negative feelings toward teamwork in general. At the top of the list of its drawbacks is the effect of social loafing. Social loafing is when "group members shirk their obligations in the hopes of benefiting from the work of others" (Dommeyer, 2007:175). Other concerns include the fairness of grades (Feichtner and Davis, 1985). Students are concerned that their own grades will be compromised and that social loafers will receive higher grades than they deserve (Williams, Beard, and Rymer 1991). Phipps, Phipps, Kask and Higgens (2001) found that students had a negative perception of cooperative learning in general.

Evidently, there is a contradiction. One explanation for this contradiction could be that, in those studies where a positive attitude is reported, much more care was taken by instructors to facilitate a positive experience. In the case of negative attitudes, instructors possibly introduced group work without much thought as to the design, and students were left to make the best of the experience. The research of Chapman and van Aucken showed that "the instructor plays a significant role in influencing students' attitudes, perceived benefits, and work and grade equity concerns regarding group work" (2001:117). Pfaff and Huddleston (2003, p.44) concluded that "positive student teamwork experiences can be fostered by instructors who are willing to tend to student needs and interests so as to carefully situate group work in their courses and to monitor group dynamics and student attitudes".

Even though students in general have positive perceptions of group work, this does not guarantee a positive experience. Bacon, Stewart and Silver (1999) showed that experience is important as students indicated that they learned more about teamwork from their best teamwork experiences than from their worst. Furthermore, group work that is improperly implemented could negatively affect students attitudes towards the concept of cooperative learning and affect their performances in future group projects (for example Glazer, Steckel, and Winer, 1987; Gregore and Butler 1984; Simonson 1977 as cited by Chapman and van Aucken, 2001). Therefore, in order to avoid a bad team work experience for students, instructors should take extreme care in the way these assignments are designed and structured.

Challenges for the academic

The challenges faced by academics or instructors to ensure a successful team project are firstly, to put measures in place which will ensure a positive teamwork experience and, secondly, to transfer the team work competencies as required in the working environment. The variables that are under control of the instructor are: the method of team selection, team size, team longevity, grading and assessment methods, use of peer evaluation and the quality of instruction and explanation regarding teamwork (Bacon, Stewart and Silver, 1999). These variables should be carefully considered and planned for in order to achieve the essential elements of cooperative learning. These variables include positive interdependence, individual

accountability, face-to-face interaction, social and small group skills and group processing (Johnson and Johnson, 1987).

In order to address these challenges, best practice for all these variables was identified and incorporated into the design of an accounting project and clearly communicated to the students. For a detailed discussion of these variables and best practice refer to our paper presented at the Regional SAAA conference in 2012, Considerations for effective undergraduate teamwork design and implementation: planning a financial reporting project (Gevers and Lubbe, 2012).

RESEARCH DESIGN AND METHODOLOGY

Illustration of design of an accounting teamwork project

The team work project that forms the basis of the present research was included in the undergraduate course, Financial Reporting 2 (also known as Financial Accounting 2), offered at the University of Cape Town. The class consists of 765 students. The course is attended by students from three different programmes, B Com Accounting, B Business Science Finance (CA stream) and students registered for the extended academic development programme (EDU).

A realistic outcome of the accounting discipline at a second year undergraduate level requires students to prepare and present basic comments on the presentation of financial information in the financial statements of a company. In this project 15 listed companies are identified by the lecturers (instructors) and specific questions are designed and prepared based on the contents of these financial statements. For this teamwork project students are pre-allocated into teams by the lecturer, and teams are allocated (on a random basis) to one of the pre-selected listed companies. The project requires students to obtain a copy of the financial statements of the allocated company; to find and analyse additional information, and to prepare answers in a report format for the specific questions based on the financial statements.

Teamwork in this project requires that students work in teams of three students per team, and that each team member accepts a different role, either that of: Chief Financial Officer (CFO), Chairman of the Audit Committee, or Investor. Consequently the team meets, discusses, and prepares answers to the specific questions set for the project, and each team member prepares a report from the point of view of the role that each team member adopted. In addition, each team member reflects on his/her experience of this project, and the effectiveness of the team. Once the team project is completed, students are required to evaluate the support and contribution of their team members in the form of peer evaluations.

As an important element of effective team projects, Davis (1993) identified the requirement to make the team project relevant to the course objectives and the general business environment. The tasks required for this project are embedded in the course objectives and forms an integral part of knowledge acquisition

in the accounting discipline. The requirement to obtain a copy of the financial statements of a listed company is for many students an initial challenge and something that they have never done before. This project requires the team to solve a problem, it requires team members to apply critical thinking and to use judgement when reviewing the contents of these financial statements and answering the specific questions. Furthermore, in order to create a teamwork project that fits the students' skills and abilities (Davis, 1993), this project requires students to recognise presentations in financial statements and answer questions that are aligned with existing knowledge acquired in the course. It also challenges the students to perform tasks that require some investigation, critical thinking and consultation with fellow students. The best practices in teamwork design were identified and discussed in detail in our paper presented at the Regional SAAA conference (Gevers and Lubbe, 2012); the summary below demonstrates the specific applications of the best practices in the design of the project, and the considerations of the various variables under control of the instructor as identified in the previous section.

Summary of best practices in teamwork design and application in accounting project

Strategy	Applications in accounting project
Team selection and size:	
Random selection (potential to be unfair), self-selection (lower group efficiency) and teacher selection (not often used).	Teacher selection was used with the specific motivation to establish diversity within the teams and to assign specific roles to each team member within the group.
Team size:	
Suggested team size 3 – 6 members. Smaller groups tend to work better.	Teams of 3 students – this was influenced by the diverse groups identified within the class, based on prior knowledge, previous experiences and skills.
Grading and assessment:	
Clear assessment guidelines result in valid and fair grading. Assessment should not only focus on product, but also on process.	Grade for this project forms part of a summative course grade – details of grading and assessment included in project outline. Project divided between individual and teamwork, and grade allocated to both activities.
Peer evaluation:	
Serves function of capturing internal processes of teamwork; Exposes students to process of evaluating others and to be evaluated by peers.	The project requires some interdependency between team members. Students are required to complete a peer evaluation; the content of this peer evaluation is included in the project outline.
Instruction of teamwork:	
Clear instructions result in teams that function better and improve students' experience. Proactive academics have a positive impact on benefits obtained from teamwork.	Guidelines for effective teamwork and specific requirements for this project were discussed with students prior to the commencement of the project.

DATA COLLECTION

Data was collected by means of surveys in an undergraduate accounting class with a population of 765 students. Using a survey was most cost and time efficient way to get a sample size large enough to be representative of the class. As this is an exploratory study, this method seemed appropriate. The surveys were designed based on the literature review and the research questions.

Data was collected at the beginning and the end of the project through the use of three different surveys which were completed by the students. Before the commencement of the project students were informed of the purpose of the surveys and assured that the results were anonymous and for research purposes only, with the exception of the peer evaluation which had the dual purpose of grading and research. Survey 1 **(Appendix A)** asked students what their experiences thus far have been of working in groups. This survey was completed before the commencement of the project. Students had to comment on how many team work experiences they have had thus far in their university career. A second question asked students to rate their team work experiences thus far as either positive or negative. Lastly students were asked to consider what they perceive to be the positive and negative aspects of working in a team.

Survey 2, which was completed after the completion of the project, asked questions about the student's experience of working on the project outlined in this paper. This was done in order to compare the results of the first survey and see whether there was a change in the student's team work experience. Included in this survey were a number of questions asking the students to rate how the different variables set by the instructor for this project have contributed towards a positive experience. The questions that were asked were as follows:

Table 1: Survey 2: relationship between questions and team project variables:

Question no	Variable	Question asked to the student
1	Team selection	Having team members selected for me helped me understand the challenges of working with different people.
2	Team size	3 members per group is a good size. It was small enough for us to effectively coordinate our schedules, and large enough for us to learn to work in a team.
3	Grading	The grading and assessment for this project was fair and reflects the performance of each team member.
4	Grading	Including a peer evaluation in the final mark makes the grading fairer
5	Grading	Knowing that my performance on this project was going to be reviewed by my fellow team members made me want to work harder.
6	Instruction	We received enough instruction on how to work in a team.

A five-point Likert scale was used for each question of "Strongly agree, Agree, Neutral, Disagree and Strongly disagree".

Lastly, Survey 3 was a peer evaluation (**Appendix C)**. This survey was completed after the completion of the project. Questions were specifically asked in such a way so as to capture the team work process, student's professional behaviour as well as the student's contribution towards the final product. A peer evaluation was used as the students fellow team members would have intimate knowledge of how the student fared as a team member, whereas the instructor is far removed from the process. The purpose of the peer evaluation is to assess the demonstration of certain pervasive skills necessary for effective team work.

Students were asked 16 questions in total under the headings **Meetings and team process, Professionalism and Contribution to the final product.** Refer to Appendix B for the detailed questions. All questions, with the exception of question 1 and question 14, were evaluated on a Likert scale of "Strongly agree, Agree, Neutral, Disagree and Strongly disagree". Question 1 had a four-point Likert scale of Almost never, Sometimes, Often and Almost Always. Question 14 had a five-point Likert scale of "Unsatisfactory, Inadequate, Adequate, Good and Excellent". The questions were graded in the following way:

- Almost never - 1, Sometimes - 2, Often – 3, Almost Always - 4
- Strongly agree - 4, Agree -3, Neutral - 2, Disagree – 1, Strongy disagree - 0
- Unsatisfactory - 8, Inadequate - 16, Adequate - 24, Good – 32, Excellent – 40

The total mark allocation for the three different sections was as follows: Meetings and team process - 36, Professionalism - 16 and Contribution to the final product – 48. This gives a total of 100. Each student would have received a mark out of hundred from each of his/her team members. The final mark for the peer evaluation was given as a percentage of a hundred.

The second survey and the third survey were combined in one questionnaire. Survey 3 (peer evaluation part) (PART A) was compulsory. Students had to complete this part in order for them, and their team members to receive a final mark. As a result, the Survey 2 (PART B), which was not compulsory, was also completed by the majority of students and resulted in a good response rate.

DISCUSSION OF STUDY RESULTS

Survey 1

This survey confirmed the research as it shows that students actually do have a more positive perception of working in teams. The questionnaire was voluntary. There were only 355 responses. Fifty-seven percent of 355 respondents indicated that they have had positive teamwork experiences compared to 33% who reported a negative experience. Ten percent reported having no experience in group work. Furthermore, it was confirmed that students' major concerns for working in teams were students not sharing the same grade expectations (42%), difficulty in coordinating schedules (56%), and the possibility of social loafers/free riders (74%). Students reported the main benefits of working in teams as being the potential to develop meaningful relationships with classmates (50%); the possibility to learn from others (52%); its ability to prepare students for the working world (67%); and the fact that a team can generate more ideas than an individual (80%). It is interesting to note that only 2% thought that the grading for teamwork is fair, underscoring the need for fair assessment and the introduction of peer evaluations.

Survey 2

As mentioned above the Survey 2 and Survey 3 were combined in one questionnaire and the peer evaluation part (Survey 3) was compulsory. As a result, the Survey 2 (PART B), which was not compulsory, was also completed by the majority of students and we received a good response rate. 717 students completed this part, which equates to a 93.7% response rate from the class as a whole.

The first purpose of the survey was to capture the students' experience on this project. 85% of these respondents reported that their experience of team work during the project was positive. This is an overwhelming majority and suggests that the project was a success in this respect.

In order to ascertain if this project, which had been carefully designed, had succeeded in improving students' experience of team work, an analysis was made between the first survey respondents' (355 students out of 765 students) experience on previous group work projects compared to their experience on this project. Out of the 355 students who completed the first survey, 335 students also completed the final survey. Students' responses were classified into three different categories, those who in the initial survey reported to mostly have had positive team work experiences, those who mostly have had negative experiences and those who have had no experience at yet. The following table presents the findings:

Table 2: Comparison of students' experience of group work before and during the project:

	First survey	Final survey
Total respondents	335	335
Positive experience	194	279
Negative experience	111	56
No experience	30	0

It is notable that several students who previously had a negative team work experience, have changed and now felt that this was a positive experience. For some students this was their first experience of team work (assumedly in a higher education environment). The next table maps the changes in experience of the students from the initial survey, and indicates how students' experience and perception of team work changed after participating in this team work project.

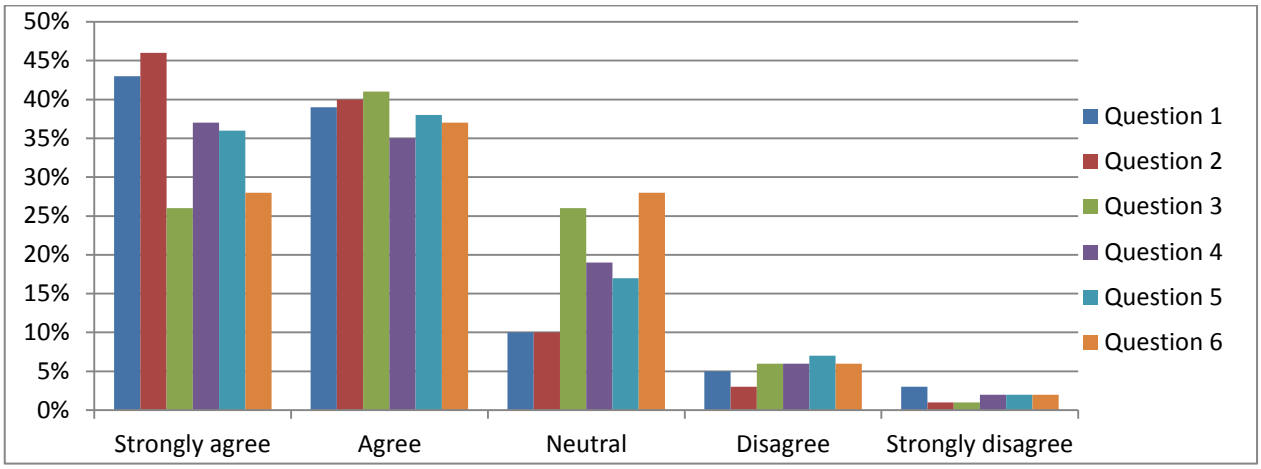
Table 3: Summary of changes in students experience before and after the project:

	Total students	% change
Initial reporting positive	194	
Experience remained positive	171	88%
Experience changed to negative	23	12%
Initial reporting negative	111	
Experience remained negative	29	26%
Experience changed to positive	82	74%
Initial reporting no experience	30	
Experience was positive	26	87%
Experience was negative	4	13%

It is clear from these two tables that there was an improvement in the students' experience of the team work process.

The second part of this survey was to determine whether the way the project was designed, focussing specifically on the variables discussed in this project, had an impact on the experience of the students. The following bar charts shows the results:

Chart 1: Bar chart showing the results of the second part of Survey 3. Refer to table 1 on page 17 for the questions)



These charts clearly indicate that the majority of students either agreed or strongly agreed with the different statements made regarding how the instructors managed the variables of effective teamwork (Questions 1 and 2) regarding team selection and team size. One can see that the students were positive about the way teams were selected and the team size. Even though the majority of students agreed with the grading being fair statement, there is clearly some uncertainty (Question 3) regarding grading. Another area where there seems to be room for improvement, regardless of the positive feedback, is the extent to which students received instruction, which should be more explicit (Question 6).

Survey 3 (peer evaluation)

Survey 2 and 3 were combined in one questionnaire. The peer evaluation part (PART A) was compulsory. Students had to complete this part in order for them, and their team members, to receive a final mark. Therefore out of the class of 765 students, 735 students completed the peer evaluation survey. This equates to a 96% response rate.

These responses would tend to suggest that the interaction of the teams was generally successful and contributed to the effectiveness of the overall project.

Table 4: Peer evaluation categories and allocated marks:

	Marks	Average mark

Team process	36	30.41
Professionalism	16	13.68
Contribution	48	40.94
Total	100	85.03

Table 5: Peer evaluations mark distribution for total mark as well as the three categories:

	Total	Team process	Professionalism	Contribution
	Percentage of students	Percentage of students	Percentage of students	Percentage of students
Zero	0%	0%	2%	1%
0-9%	1%	1%	0%	0%
10-19%	0%	1%	1%	2%
20-29%	1%	1%	1%	1%
30-39%	2%	1%	1%	2%
40-49%	2%	3%	3%	1%
50-59%	4%	3%	2%	5%
60-69%	6%	8%	8%	4%
70-79%	13%	11%	13%	17%
80-89%	16%	18%	14%	9%
90-100%	56%	53%	56%	58%
	100%	100%	100%	100%

From this table and the mark distribution, it is clear that the majority of students scored well in all three categories. This could be due to a number of reasons:

- The students already had a strong set of skills already before the commencement of this project;
- The students used the guidance and instruction given during the project to acquire the skills;
- The students had a positive experience;
- The students gave more favourable marks than what was actually warranted. This could either be out of loyalty to fellow team members, or because the student became a good friend of his or her fellow team members.

Whichever of the above reasons apply, at the very least, students became aware of what the pervasive skills are that they need to acquire/ and demonstrate.

Summary and reflection

The guidance of best practice in prior teamwork projects, as derived from the literature, enabled the lecturers (instructors) to identify the key variables to consider and incorporate in the design of this specific project. Using the variables in the design of the project provided the opportunity to give due consideration to *why* we are using a specific variable, and *how* it may affect the experience of the students and the outcome of the project. In some instances the specific design of this teamwork project resulted in a more positive experience for students, but we are also very aware of the difficulty of ascertaining whether students actually experience and acquire some of the pervasive skills.

Reflecting on this first-time inclusion of teamwork as part of this undergraduate accounting project, we (as lecturers) aim to use the knowledge and experience obtained, as well as the feedback from past students, to improve the instruction processes of this project, to better prepare the students for the teamwork experience and what to expect from it, as well as motivate the students to focus on the positive experiences that they may acquire in this process. Documenting the design and outcomes of such a teamwork project further enabled us to consider the appropriate incorporation of pervasive skills into the undergraduate curriculum and how these may be assessed.

Limitations of this study

Whilst the results are very encouraging, a number of limitations were present during the study. The use of surveys has obvious drawbacks. Whether students gave objective feedback in all three of the surveys, especially the peer evaluation, is questionable. It was clear, however, that where students did not pull their weight during the project, the fellow team members were not shy to report this. Students may, however, have given their fellow team members a more favourable rating with regards to the pervasive skills than what was actually warranted.

Unfortunately, in this study, there is no clear indication that the students went from not having certain pervasive skills to acquiring them as a result of this project. This will require carrying out a thorough examination of students' pervasive skills before the project or carrying out a follow-up project. Very little research has been done on this area which makes it a potential opportunity for future research.

The mark allocated to the project as a percentage of the final course mark is very small and this might have affected students' attitudes towards the project.

Conclusion

There are a wide variety of teaching contexts where group or teamwork has shown to enhance student learning. Several research studies on different forms of teamwork document best practices and strategies for designing and developing a teamwork project that is appropriate, well planned and managed. During the process of grappling with the design and implementation of a fair and effective teamwork project, these studies not only provided us, as lecturers, with descriptions of perceptions and challenges, but also gave us clear pointers towards good practice to consider.

This study enabled us, during the planning stage of the project, to identify the design and implementation questions and decisions that we had to consider for teamwork in an accounting project. The results of the surveys made it clear that, to maximise student learning from team activities, academic staff should

establish explicit guidelines for teamwork and manage the planning, development and implementation of processes and procedures for acquiring skills through teamwork and assessment.

Lastly, the study showed that cooperative learning and team work together with proper assessment is an effective tool to enable students to demonstrate pervasive skills.

Appendix A

A survey was done at the initial stage of this project in order to obtain information of students' perceptions of teamwork projects.		
1. What has your exposure been to group/teamwork?	**355 responses**	**%**
None	22	(6%)
Little	60	(17%)
Moderate	101	(28%)
More than 4 times	172	(48%)
2. What has your experience been so far of working in teams?	**355 responses**	**%**
Positive	204	(57%)
Negative	118	(33%)
No experience	33	(9%)
3. What do you consider as the negative aspects of working in teams?	**355 responses**	**%**
I do not like people depending on me.	36	(10%)
It is difficult to coordinate schedules.	198	(56%)
I work better alone.	116	(33%)
It requires more work.	56	(16%)
The possibility of free riders or loafers.	264	(74%)
It is difficult to deal with tension and disagreements.	70	(20%)
People think differently.	90	(25%)
Grading is unfair.	88	(25%)
Team members do not share the same grade expectations.	150	(42%)
There is not enough direction from the lecturer on how to work in teams.	31	(9%)
Cultural differences make it hard to work together.	33	(9%)
4. What do you consider as the positive aspects of working in teams?	**355 responses**	**%**
Together we can generate more ideas.	285	(80%)
I learn how to work with others.	185	(52%)
I work better in a team.	17	(5%)
I can learn from my fellow team members.	214	(60%)
Less work for me to do.	56	(16%)
The grading is fair.	8	(2%)
It forces me to meet and develop relationships with classmates.	176	(50%)
It increases my self-esteem.	40	(11%)
It prepares me for the working world.	238	(67%)
It allows me to gain a deeper understanding of the course work.	78	(22%)

Appendix B

Extract of peer evaluation questionnaire for the accounting project

Meetings and team process: (36)		
1	Was the team member on time for meetings?	4
2	The team member communicated effectively as to his/her ability to attend the meeting and be on time.	4
3	The team member was prepared for the meeting and had done the necessary readings and research.	4
4	The team member listened effectively during meetings.	4
5	The team member contributed to discussion by suggesting ideas.	4
6	The team member was able to identify difficult areas and suggest effective approaches.	4
7	The team member helped in facilitating discussion during meetings.	4
8	The team member asked for help from other members when he/she did not have the necessary skills to complete the task.	4
9	The team member was supportive of other team members where they lacked the skills to complete the task.	4
Professionalism: (16)		
10	The team member treated other members in a professional manner.	4
11	All communication from this team member was done in a professional manner.	4
12	The team member responded well to constructive criticism or feedback	4
13	The team member had a positive attitude throughout the project.	4
Contribution to the final product, the report: (48)		
14	Please rate the team member's contribution:	40
15	The team member had his/her contribution ready at the appointed time.	4
16	The team member reviewed other members' work and provided constructive feedback.	4
		100

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