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# Cooperative learning: Buddy system in an advanced accounting subject

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## Abstract

Co-operative learning in the form of a buddy system was adopted in teaching third year advanced accounting subject. Length of lectures were limited to incorporate more co-operative learning activities such as oral and poster presentations, jigsaws and buddy discussions. Mid-way through the course, students wrote a short reflection on their buddy experience. At the end of the course, a survey was conducted on the perceptions of students towards the buddy system and teamwork. The result of the survey indicated a positive rating towards students' perceptions on the buddy system and teamwork and the chances of improving their grades. Findings also suggested that although there had been some resistance by the students towards the pre-selection of buddies and issues in its implementation, co-operative learning appeared to create a safer and conducive environment for students in achieving the learning outcomes.

**Keywords:** Co-operative learning, accounting, accountancy, buddy system

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## 1. INTRODUCTION

Out of the ten programme learning outcomes (PLOs) for Bachelor of Accountancy, four of them advocated for cultivation of soft skills, not just acquisition or application of accounting knowledge. Students were expected to graduate with the abilities to work collaboratively in a management team, to communicate effectively, both orally and in writing, with different stakeholders, to evaluate ethical issues consistent with professional ethics and social responsibility and to demonstrate leadership qualities and entrepreneurial skills. The cultivation of these skills warrants innovations in the teaching approach for an accounting subject.

Accounting is not just about numbers or debits and credits. This misconception often leads to students to merely memorise their journal entries without understanding the concepts behind them. Traditional method of teaching via lecture tends to exacerbate this where there was less opportunities to observe and gauge the level of students' understanding, what more to develop the required soft skills. Active learning pedagogies that centred on students engagement may provide a solution to these quandaries. Consequently, this study applied co-operative learning, a form of active learning pedagogy, to improve upon teaching and learning activities of this accounting course.

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## 1.1 Literature review

Cooperative learning is defined by Johnson, Johnson, and Smith (1991) as “*the instructional use of small groups so that students work together to maximize their own and each other's learning.*” They further identified five pillars in cooperative learning namely positive interdependence, individual accountability, interpersonal skills, face-to-face promotive interaction and processing out. These five elements need to exist for a successful cooperative learning in a classroom and also connote the benefits of co-operative learning. Slavin (1998) argued that co-operative learning may help students to reach out to and help each other. Peer feedback, reinforcement and support form the backbone of co-operative learning that revolved around students' interactions (Ajaja & Eravwoke, 2010).

<b>Cooperative Learning</b>				
<b>Positive Interdependence</b>	<b>Promotive, face to face interaction</b>	<b>Individual accountability</b>	<b>Social skills</b>	<b>Group processing</b>
"We need contributions from each of my team members if what we're doing to succeed"	"How I think, talk and act towards my team members will influence how well we perform"	"Although my team members can help with the assigned task, my individual performance /contribution will shape my grade"	"Working effectively together as a team means that I need to improve my interpersonal skills"	"Our team has to reflect on its performance and think together about how we might improve"

Figure 1 Five pillars in co-operative learning (Foundation Coalition, 2008)

The lecturer's past teaching experience had shown that 'rote-learning' was a huge obstacle in ensuring students achieved the course learning outcome outlined for this advanced accounting subject. Stahl and Vansickel (1992) argued that co-operative learning can promote higher order thinking skills and thus negate 'rote-learning'. Carlsmith and Cooper (2002) also concurred arguing that students put more effort and learnt more from co-operative learning than traditional lecture and reading. More complex and challenging problems that promotes higher understanding can be presented to students in co-operative learning that was not otherwise possible if the students were to work their own (Michaelsen and Sweet, 2008).

## 2. METHODOLOGY

### 2.1. Data sources and collection

This action research was conducted on students undertaking Financial Accounting and Reporting IV in the School of Accountancy, UUM. The subject is a final year undergraduate subject for students enrolled in Bachelor of Accountancy. In the past, this subject had been taught pre-dominantly via traditional lectures and followed by tutorials. The tutorials answers were presented by individual students on the whiteboard. There were limited teaching and learning activities that allowed for students' interactions and co-operations.

There were 36 students who were enrolled in the class. The students were then divided into their buddy group according to their Financial Accounting and Reporting III final grade, gender, hostel and race. Each buddy group was limited to between three and five buddies per groups. There was general resistance to the idea of pre-selection of the buddies. However, they were informed that this is necessary to ensure that there was a proper mix of students in a group, in terms of level of understanding, ability and race.

Overall, there were nine buddy groups. The buddy groups were advised in the first session of the importance of co-operative learning and the buddy system. They were asked to appreciate their buddies and to look after each other. No one should be left alone to tackle any difficulties that relate to the course. Any problems should be promptly reported to the lecturer so that it could be addressed effectively and in time.

The buddy system was applied during class activities, take home exercises, poster and oral presentations and project. The common group project contributed 10% of the total course carry mark. The other assessments involved individual tutorial submission, short quizzes and final examination. The students were also advised to sit with their buddies throughout the semester. This was to help foster their relationship and rapport. They were also advised to allocate some time after class for discussions either in person or using technologies.

Traditional lectures were kept to minimal lengths whereby they were conducted to introduce the conceptual and theoretical frameworks of each topic to the students. The lessons continued with application exercises. Students were required together with their buddies to apply the concepts and theories through in-class group activities. Oral and poster presentations, jigsaw, buzz sessions and peer feedbacks were incorporated into the buddy activities.

Informally the performance of each buddy groups was assessed mainly via their oral and posters presentations. For example, during poster presentations, their peers walked around and asked questions or explanations from the buddies manning the posters. Their peers then rated the posters and explanation by drawing stars on the posters. The lecturer tried not to correct any error on the posters but called upon other groups who had better answers to point the errors and to discuss it further. The lecturer role here was to facilitate not to dominate the discussions.

## **2.2. Data analysis and techniques**

During lessons, the lecturer observed significant improvements in terms of focus and interactions among the buddies, compared to traditional lectures. For example, the lecturer often had problems in getting responses for questions thrown during the lectures. However, during their oral and posters presentations, students were more upfront in their responses and were not shy to ask or clarify any issues. The co-operative learning environment may appear to be less threatening and safer to the students.

There were also ample opportunities to apply the concepts behind consolidations during in class buddy discussions. These opportunities were not there during normal lectures. Students also appeared to understand more the linkage between the previous chapters to the current lessons. They were also able to explain in depth the concepts behind their journal entries and solutions, importantly in their own words, to their fellow buddies and lecturer.

In the middle of the course, the students were required to do a short reflection on a sticky note on their buddy group and buddies. The question was “*What do you think of your buddy group?*” A significant number of students showed positive reviews of their buddies and the work that they had solve together. The most common problems mentioned were lack of co-operation, non-committed buddies and also wanting to choose own buddies. These concerns were addressed by the lecturer during the following classes. The groups were reminded again of the benefits of co-operative learning. One student was contacted in person to resolve his lack of commitment that was reported after the reflection session.

At the end of the course, before their final exam a questionnaire was distributed to them. The questionnaire was adopted from Vasan, DeFouw and Compton (2009) who did a survey on perception of anatomical students on team based learning and Farell and Farell (2009) who studied accounting students’ satisfaction in co-operative learning. It assessed the perceptions of students on the buddy system and teamwork or cooperative learning. Tsay and Brady (2010) found a significant and positive association between importance of grades to students, sense of achievement and their participations in co-operative learning.

## **3. RESULTS**

The descriptive results in Table 1 showed the distribution of response towards all the items in the questionnaire. The results revealed mixed acceptance towards the buddy system and teamwork. For example, 74% (agreed and strongly agreed) still considered lecture to be more beneficial towards their learning experience. However, on the other hand, 67% agreed that the buddy system should be continued for the next batch of students. The response on the workings if their buddy groups, was consistent with the self-reflection received midway through the course. They appeared to be 11% (strongly disagree and disagree) respondents who were not happy with their groups. Overall, the items that can be associated with peer interactions revealed positive responses (Item = 7, 8, 9, 10, 16), with percentages of respondents answering agree and strongly agree, of more than 70%.

Table 1. Descriptive results of questionnaire

No	Item	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree
1	TBL helped me increase my understanding of the course material	0%	19%	19%	37%	26%
2	I have completed 100% of the required reading	0%	11%	41%	37%	11%
3	I learn better from lecture presentations than small group.	0%	15%	11%	30%	44%
4	Solving problems in a group is an effective way to learn consolidations.	4%	11%	7%	52%	26%
5	I learned useful additional information during the TBL sessions.	4%	11%	22%	37%	26%
6	TBL helped me prepare for course examinations.	4%	19%	19%	37%	22%
7	The buddy discussions allowed me to correct my mistakes and improve understanding of the concepts	0%	15%	11%	41%	33%
8	I have a positive attitude about working with my peers.	0%	0%	19%	63%	19%
9	The ability to collaborate with my buddies is necessary if I am to be successful as a student.	0%	0%	22%	52%	26%
10	Solving problems in a group is an effective way to practice what I have learned.	4%	7%	15%	41%	33%
11	My team worked well together.	4%	7%	22%	41%	26%
12	I contributed meaningfully to the TBL discussions.	0%	7%	33%	33%	26%
13	Most students were attentive during TBL sessions.	0%	19%	26%	41%	15%
14	I paid attention most of the time during the TBL sessions.	4%	0%	26%	44%	26%
15	The TBL format was helpful in developing my information synthesizing skills.	0%	7%	22%	52%	19%
16	There was mutual respect for other teammates' viewpoints during TBL.	0%	11%	15%	63%	11%
17	This learning method should be continued for next batch of students	0%	4%	30%	30%	37%

Perceptions of the buddy system	
No	Items
1	TBL helped me increase my understanding of the course material
3	I learn better from lecture presentations than small group.
4	Solving problems in a group is an effective way to learn consolidations.
5	I learned useful additional information during the TBL sessions.
6	TBL helped me prepare for course examinations.
17	This learning method should be continued for next batch of students
15	The TBL format was helpful in developing my information synthesizing skills.
Perceptions of teamwork	
No	Items
8	I have a positive attitude about working with my peers.
9	The ability to collaborate with my buddies is necessary if I am to be successful as a student.
10	Solving problems in a group is an effective way to practice what I have learned.
11	My team worked well together.
12	I contributed meaningfully to the TBL discussions.
13	Most students were attentive during TBL sessions.
16	There was mutual respect for other teammates' viewpoints during TBL.

Figure 2. Items in principal components

The result from the questionnaire was further analysed using statistical software SPSS. Based on the principal component factor analysis (Figure 2), two factors (seven items each) were identified to represent 'perceptions of buddy system' and 'perceptions of teamwork.' The internal consistency of the factors were analysed using Cronbach's alpha co-efficient. The value was 0.898 for 'perceptions of buddy system' and 0.907 for 'perceptions of teamwork. The result were then analysed based on the students answers on their expected grade for the final examination. All 26 respondents graded themselves C and above; 2 students =C, 12 students = B and 12 students = A. The results indicated that all respondents had positive perceptions on the buddy systems and teamwork. The mean ratings were higher for students who believed that they will get higher grades. However, the one way ANOVA indicated that they were no significant differences in the mean ratings for both of the associations ( $p=0.446$ ).

### 3.1. Implications and future directions

The results appeared to imply that the students were indifference on whether the buddy system would help them get higher grades. Vasan et al. (2009) who also found inconsistent result between their perceptions of teamwork and importance of grades attributed this to students' association with final examination and their own exam preparation rather than the teaching and learning methods that were used. The result of the ANOVA tests also appeared to validate the general resistance that the students had of the pre-selection of their buddies. These may have influenced their responses.

Nonetheless, it was worth noting that, the results showed that all the students had positive perceptions of the buddy system, albeit not significantly related to their expected grades. The sample size of 26 respondents may also not be adequate to thoroughly test these associations. Future research may be extended to other students undertaking the same subject to further explore the implementation of co-operative learning on accounting students.

#### 4. CONCLUSIONS

Slavin (1998) had also cautioned that co-operative learning can only be successful if the teaching and learning activities foster both a group goal and individual accountability. There might have been weaknesses in the implementation phase of the approach inside the study that would be reflected and improved upon in the future.

The lecturer experience in adopting the buddy system into the teaching and learning activities had been positive and enriching. Upon reflections, there were a few issues in its implementation that warrant further improvement and a more thorough planning. The students also had shown a positive attitude in embracing co-operative learning. There had been more active participations by and interaction between the students in the overall learning process. Co-operative learning can empower students to take control of their own learning.

Nonetheless, it is not also a magic tool that would solve all the problems in a classroom (Ajaja and Eravwoke, 2010). The lecturers themselves must also be opened to the challenges and commitment that co-operative learning requires. To quote Michaelsen and Sweet (2008, page 25) “*when instructors adopt the view that the education process is about learning, not about teaching, instructors and students tend to become true partner in the education process.*”

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