Collaborative Learning: an Asian Case Study

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Abstract

This paper evaluates the role of collaborative learning in an Asian educational institution. The paper begins with a description of the current education landscape, particularly on learners of today which exhibit 21st century learning skills. The concept of collaborative learning is next described with an emphasis on Johnson and Johnson five key elements of collaborative learning. A research study is being conducted of which questionnaires were sent to students in an Asian educational institution of which twenty eight responded. The findings showed that 78% of the respondents were satisfied with the use of collaborative learning. Conducting collaborative learning do face learning challengers were identified and corresponding strategies to overcome those challengers were discussed at the end of this paper.

Keywords: Collaborative learning, Cooperative learning, Student-centered

Introduction

Globalization has led to many nations more dependent on one another for political, economic, and social well-being. With the ever changing technology landscape that not only influence how we live and work but also much of social interaction. Given a more integrated world, the ability to work together cooperatively has become one of the core survival skills in the global workforce (Foyle & Shafto, 1995). It is no surprising that the educational landscape have undergone much fundamental changes, one of which is teaching students how to communicate, cooperate effectively and engage in self learning has become the basis of education (Cheng, 2003). In fact, the 21st century framework cited possessing core literacy skills is just one of the four core competencies expected of learners to acquire in the work place. Learners are expected to acquired life and career skills, critical thinking skills, ability to communicate, work collaboratively and utilizing information, media and technology skills are the 21st century competencies (Framework, 2011).

There have been several studies (Felder, 2007; Lea, Stephenson & Troy, 2003; Shimazoe & Aldrich, 2010) which argued that collaborative learning has become an essential learning tool to engage students. On the other hand, other studies questioned its relevancy and effectiveness to Asian students (Tan, Lee & Sharon, 2007; Gillies, Pham & Renshaw, 2008). The studies cited that Asian learners were passive learners, shy, highly competitive and preferred instructor-led instead of students-centered (Gillies, et. al., 2008). Hence, this paper seeks to evaluate the feasibility and effectiveness of collaborative learning as part of teaching and learning activity amongst Asian students.

Background of collaborative learning

Collaborative learning has its roots from constructivism concept whereby knowledge is actively constructed (Mascolod & Fisher, 2005). There are two types of constructivism, cognitive and social constructivism knowledge. Cognitive constructivism believed that learners learn better if knowledge were constructed by learners themselves. On the other hand, social constructivism views the important role of social interaction among learners and teachers to gain knowledge and ideas (Powell & Kalina, 2009). Vygotsky 1978 believed that learning is an integral part of learning where learners interact with other learners and they are also more adaptive to the learning environment (Powell et al, 2009). The result of cooperative learning leads to deeper understanding and better internalization of knowledge among learners (Powell et Al, 2009).

Today's learner are characterized by behavior such as multitasking, multiple competencies skills [critical thinking, problem solving, prefer to communicate and collaborate offline and online] and involved in application based learning (Jerald, 2013). Learners are also utilizing more and more of digital communication tools such as emails, social media (Facebook) to encourage collaborative and experiential learning (Barr & Tagg, 1995). To stay relevant and better engage with 21st Century learners require a seismic shift in paradigm from that Instructional to learner-based perspective (Barr et. Al, 1995). While in the past the focus was on educators to transfer disciplinary knowledge and content to learners, being learner-centered focuses on learners instead with the aim to promote learning amongst learners (McCombs & Whisler, 1997). Several studies have indicated that learner-centered practices will enable learners to be more motivated in their learning as it engages them, better retention of knowledge, more positive towards to subject as there are increased understanding leading to higher self esteem (Felder & Brent, 1996; Lea et al, 2003)

Collaborative learning

Collaborative learning requires learners to work together toward a common goal (Johnson & Johnson, 1989, 1999) and there terms such as collaborative and cooperative learning are used interchangeably. Johnson & Johnson (1989) a key proponent of the concept termed it as cooperative learning. Essentially cooperative learning is the use of small group that requires learners to work together in order to maximize their own and each others' learning (Johnson, Johnson & Smith, 2007). Bruffee (1993) described collaborative learning as an approach to learning whereby students are required to work together to achieve group task through negotiation and consensus. Why the use of collaborative learning? Felder & Brent (2001), Lea et al (2003), McCombs and Whisler (1997) provided insight into the benefits of cooperative learning in facilitating learning. Among the many reasons include; a) collaborative learning, promotes active learning where it consist of any learning activity engaged by students other than passively listening to instructor's reaching (Faust & Paulson, 1998). As learners established stronger foundation and deeper understanding of subject content could lead to better academic results. Learners would feel more motivated in their studies with improved grades and boost their self-esteem which could result in higher learner retention. From the social aspect, learners in the process of working in groups or collaborative activities would also develop their interpersonal, oral communication and social skills (Van den Bossche et al, 2006). So from the learners prospective, it gradually shaped their personality to be more confident.

Collaborative learning (Johnson & Johnson, 1998)

While there are several frameworks of cooperative learning by various authors, cooperative learning framework by Johnson and Johnson would be used primarily as it best illustrate the characteristics of cooperative learning. In addition, the authors were the pioneers in this area of studies and research. There are five elements in Johnson and Johnson cooperative learning which are; Positive interdependence; Individual accountability; Face-to-face interaction; Interpersonal and small group skills; Group processing (Felder, 2007).

Positive interdependence is characterized by every member in a group is indispensable and team members rely on each other to achieve the goal. There are possibly also joint rewards. Individual's goal achievement are positively correlated (Johnson, Johnson & Smith, 2013) If any member fail to do their part, everyone suffers (Felder, 2007) hence, structural independence (Johnson et al, 2013) Individual accountability takes place whereby all learners in a group are held accountable for doing their fair share of the work and mastery of the learned materials (Felder, 2007). This would require assessment all members in a group both individually and on a

group basis. Individual assessment can be given and instructor is encouraged to "visit" and observe learners discussion. In the progress, instructor would be keep track of the member and also group process. Prompt feedback can therefore be provided to learners so that they would be kept informed of their progress. Each member has a personal responsibility for completing one's own share of work and to also support and assist other members in the group so that learners learn together which could also result in being able to perform higher as individuals (Johnson et al, 2013). Face-to-face interaction is essential to promote successful interaction which could result in positive interdependence. Group members are encouraged to provide feedback, challenging reasoning and encouraging one another (Felder, 2007). As noted by Johnson (2013) doing so would result in higher cognitive development of learners to solve problems and peer learning. Group members therefore participate in joint-celebration success. Interpersonal and small group skills takes place where in the process of social interaction with group members, it result in trust building, improve interpersonal and communication skills (Johnson et al, 2013). Members in the group are exposed to other group members' divergent views which may differ from their own. They would learn to debate, evaluate the various options available and accept a "solution" that is in the interest instead of individual. As such, conflict management skills can be improved and better at resolving differences (Felder, 2007; Johnson et al, 2013). Group processing requires group members to set goals, have the attitude to review their own activity in areas which the group has done well or other areas which could improve. The group goals may therefore be revised or changed as a result. (Felder, 2007). Continuous improvement is a key result of such process (Johnson et al, 2013).

Research Study

The research was conducted on learners in an Asian educational institution based in Singapore. "Building and managing strategy" and "Consumer behavior" under the undergraduate course would be the modules selected for the research purpose. The reason those modules were selected was collaborative learning was used as one of the key teaching activity and assessment method to facilitate learning especially where more complex ideas need to be developed and add more realism in lessons. Collaborative learning activity is also needed to meet one of learning objectives. This exploratory pilot study was conducted that involved those two modules with no more than fifty students combined. It served as a run up to a larger scale study that would involve more respondents across wider field disciplinary study and different cohort of students.

The research study involved the use experience sampling method to evaluate the satisfaction level amongst Asian students with regard to cooperative learning. Quantitative research method was being used and the main data collection method was a set of questionnaire posted via

"Google forms". The identified sampling population consisted of both graduate and current pool of students – degree graduates and higher diploma in business in the School of Business. A total of email was sent to forty eight students requesting for voluntary participation. These students were of mix gender from different nationalities such as China, Cambodia, India, Indonesia, Laos, Malaysia, South Korea, Singapore and Vietnam. Their age ranges vary from 17 to 45 years old.

The questionnaire design consisted of mostly multiple-choice questions and several open-ended questions which allowed respondents to express their opinion. It was divided into several sub-sections that cover the five key elements of Johnson and Johnson cooperative learning. The elements were; Positive (outcome) interdependence between members, Individual accountability, Face to face interaction, Development & improvement of interpersonal skills and Regular self-assessment of group functioning. It also included a section on the use of communicating with technology. A cut-off period was set two weeks after the first email sent to respondents. The result of the survey were subsequently analyzed using inferential statistics and chi-square statistical method to test.

Research questions

a) What is students' satisfaction level with regard to collaborative learning among Asian students?

b) How to students feel about working in groups? Assess whether e-communication tools (WhatsApp, social media) is the prefer mode over face-to-face interaction.

c) How do students work together in conflict management and communication amongst one another?

d) Which is the most preferred mode of communication use among group members? Is face-to-face interaction still valid?

Results of the findings (questionnaire)

By the end of the two weeks period, a total of twenty eight respondents responded. The results were compiled and analyzed. The key findings are as follows;

Positive interdependence, two questions were asked, the first question being whether they recognize group member was needed to complete the assignment, 14% (4 out of 28) preferred

not to have any group member, rather to complete the assignment themselves. 32% selected some extent prefer only and 54% valued that group member is needed. A fair balance between team members needed against team members not needed. The second question pertained to recognizing the benefit of having several of your classmates in the participation and completion the assignment. The results, 7% (2 out of 28) see no benefit, while 21% see only some benefit. However, 72% acknowledged the benefits of having team members in participation and contribution to complete the assignment.

Individual accountability relates more to lecturer preparedness in ensuring that each team members are held accountable instead of relying on their team members to do the majority of the work. Four questions were asked, majority of the responded selected lecturers were very clear in communicating instructions (96%), all respondents did acknowledge that lecturer did "visit" each team to observe, assess orally and provided timely feedback. 82% of respondents cited there was considerable discussion that took place amongst team members to concerning areas to improve. 75% respondents cited face-to-face interaction did take place majority of time, 86% members did check with one another for understanding.

For face-to-face interaction, two questions were asked. Whether face-to-face interaction is used extensively, 75% mentioned so while 25% some face-to-face interaction only. Group members check with one another for understanding (challenging or reasoning, listening attentively). A majority of 86% respondents cited yes, some checking and challenging questions were being put forth to members.

Interpersonal and small group skills, 4 questions were being which pertains to trust level and conflict management. 86% of the respondents selected have some to high level of trust, while only 14% (4 out of 28) mentioned no trust at all. It was no surprise why the trust level were high as the next question asked on whether trust was already high at the beginning or developed along as the project progresses. Most respondents expressed trusts were gradually developed along the way, start being acquaintance and gradually increase to have mutual trust and respect. In terms of conflict management, 82% of respondents chose conflict management were good being able to resolve most conflicts or disagreement. Only 4% (1 out of 28) mentioned it was not effective at all while the remaining 14% (4 out of 28) cited conflict management ability only sometimes able to resolve.

Group processing has two questions, one being a multiple-choice question whether they recognize their team mates contribute a fair share of the effort. A fair majority, 78% selected team mates did contribute, while 22% mentioned the effort contribution is only some extent.

Only 4% (1 out of 28) said no contribution at all. The second question is an open-ended question where respondents were asked to express what worked well and what did not. Answers provided on what work well included citing group members put in much effort to ensure task at hand was completed at the highest level and managed to put aside personal differences to ensure group success. On areas which did not work well included mis-communication due to the cultural differences being the most frequently cited and having a member of the group which needed encouragement and persuasion to complete task on time.

In the area of communication, communication with technology, "WhatsApp" being most frequently used, 57%, while short-messaging (sms) only used by some while the balance 36% used all of them. Furthermore, 96% did recognize communication with technology offers some value (64%) and 32% being important to very important.

Overall, 79% of respondents preferred to work in teams rather than individual and 89% did recognize having group project would benefit them to prepare for their workplace and 78% were satisfied concerning cooperative learning. The result at the end of the survey did differ to some extent from the initial questions asked, where only 54% respondent responded valuing team members and 72% saw positive to large benefit in contrasts to 21% for some benefit only.

Limitations of Study

There were several limitations to the research study. The first being the small number of respondents involved in the study. In addition, it focused on only the Business cohort of students. In order to ascertain whether collaborative learning is view positively and both learners and educators are supportive of such learning activity, more students from different field of study could participate. This may include students from Business, Hospitality, Information technology and even Psychology students. In addition, students at different level of study could participate in the research from foundation, diploma and degree courses.

The research study was conducted in a relatively short period of time. While there steps were taken to minimize bias or sampling error, having a planned research study would certainly improve accuracy and minimize bias.

There were only two types of questions used in the study, multiple-choice question and open-ended questions. This may limit the answers provided by respondents and also having scale ranking would enhance better measurement of satisfaction level. In addition, there were only 20 questions which these can be increased to ask more vary areas.

With the use of more number of questions and question types, more complex statistical tools can be used, one of which is the one way ANOVA testing.

Recommendation

The results on the whole do support that conducting cooperative learning is feasible and students have a positive view. Cooperative learning activity can be used to enhance learning experience which can be used along with "flip classroom" concept. The results obtained did dispel the presumption or stereotype view that Asian students are passive learners, shy to participate, individualistic and preferred instructional based teaching. 21st century learning is here to stay. (Gillies, Pham & Renshaw, 2008)

However, there is a need though to recognise learning challengers and precautionary steps can be taken.

Learning challenges and overcoming strategies

Despite the strength in collaborative learning, there are several learning challengers in the implementation of cooperative learning. In addition to highlighting the learning challengers, possible solutions or ways to resolve the challengers are provided as well.

Firstly, learners could be uncertain of what is expected of them, goals set could be too vague. It is therefore important for instructor to provide very clear instructions even before the session begin, "set house rules" and reserve the final decision if there are unresolved areas. Specifying the rationale of working collaboratively is an important start, laying out expectations for both individuals and groups are needed as well (Johnson et al, 2013). These may include; group interest precede over self interest, every member of the team has a chance to share his or her opinion and teamwork is essential where every member of the team needs to participate and contribute their fair share of work. In the specific classes conducted, each member of the team would "take responsibility" to be an expert for a task or mini case to ensure equal distribution of workload and contribution.

Secondly, team performance or proficiency level varies quite substantially from group to group. To avoid homogenous group formation (similar academic standards, close ally or some culture of members in a group), heterogeneous mix of learners in terms of gender, ethnicity and academic performance so that no one group is at a disadvantage and instill peer learning (Smith, 1996;

Felder & Brent, 2001). Each member in a team is of varying standards of knowledge competency or even communication skills, good mix of members from different culture or ethnic group.

Thirdly, to address situations of unequal workload distribution or contribution among team members, assignment of roles to team members on a rotational basis, keeping the group small (ideally four learners to a team) and instructor walk around the class and listen to discussions. The different roles include the role of leader (which is to assign task, set deadline and lead in discussion), recorder (minute taker during team discussion or feedback provided by instructor) and checker to ensure there are errors and expectations are met. There would therefore be a fairer share of workload among members in a team. In addition to role assignment, "jigsaw" technique in which each student becomes task or min case expert (Faust et al, 1998) is used as well. Furthermore, introvert learners would also have a chance to take the leader role as well. Instructors are highly encourage to visit each team and observe their discussion, offering timely feedback where needed and also to informally assess team members (Felder et al, 2007).

To ensure individual accountability, peer evaluation in which each member rate and evaluate one another at the end of each meeting session to ensure members are accountable to one another (Felder, 2007; Johnson et al, 2013).

Fourthly, there could be learners who are introvert, shy or knowledge gap and slow to keep up with the team progress. In this regard, "think pair share" create a "safe" learning environment (Faust and Paulson, 1998) whereby pairs of students form discussion group initially. In addition, "air time" of 3 – 5 minutes provided the opportunity for each learner to speak out or voice their opinions. By providing a comfortable learning space, hopefully as the session progresses, the shy learners would feel more comfortable and start to socialize with the rest of the group members. Once learners are quite comfortable (typically with two or three sessions) with working with classmates which they may not know well, they would feel more comfortable when a larger team of four members are formed eventually.

For members in the team are experienced knowledge gap, to promote healthy relationship among team members, the more proficient learners are encouraged to be a mentor to other members in the team (McCombs & Whisler, 1997). They need to be aware of the importance of positive interdependence since every member is indispensable to the teams' success or failure to meet the goals set (Johnson et al, 2013). In the progress of acting as a mentor, not only would it promote peer learning resulting in better relationship, it in fact it could also enhance the motivation to learn for both groups of learners. For the learners who experience knowledge gap, team members are there to assist. As for the more proficient learners, they could also feel high higher esteem

since they know act as a mentor (Felder, 2007). Instructors who are making rounds of visit to each group could observe, use cues, prompts, probing questions and Socratic questioning to induce critical thinking among learners (Faust & Paulson, 1998; Rachel, 2002). Scaffolding technique is particularly useful to facilitate learners to build on prior knowledge and internalize new information, assist in cognitive development initially and support is gradually withdrew support (Rachel, 2002). This not only would build learner self confidence but also close knowledge gap and move up to the next level of learning consistent with Vygotsky (1978) "zone of proximity development" (Rachel, 2002).

Fifthly, there would be a high chance that disagreement and have divergent opinions are inevitable. In arriving at the group solution, there will be "promotive interaction" (Johnson et. al. 1998) whereby learners initially with diverse viewpoints share their respective opinion, challenge one another assumptions, brainstorm various solutions and finally decide on the chosen solution which all group members eventually agree. This is where collaborative learning promotes active and deep learning. In addition, lecturer would visit each group to observe how their discussion progresses and early intervention could be rendered to close differences in opinions gaps.

In addition to discussion within groups, at the end of each session, a sharing and de-brief session could be conducted in the form of "world café" style (The World café, 2013) where each team would be given a chance to share their opinions or comments with the rest of the class. In that way, not only would there be greater of knowledge exchange, learners would also appreciate the different dimensions of divergent views. The instructor would provide the overall feedback of how the teams "perform", areas those are good exemplary and other areas which could be improved upon.

Lastly, there are teams which are overly concern on how they perform. To encourage learning, prompt and if possible, constructive feedback could be provided to learners in as short a time as possible not only encourage learning, build their confidence level and also to allow opportunity for feedback (Felder et al, 2007).

Conclusion

The above discussions provided insights into various literature studies on learning, particularly social constructivism to cooperative learning. In addition, literature studies have indicated cooperative learning can be a good teaching strategy to encourage blended learning, primarily on the basis that it enriches learners' experience in the course of learning, This is even more so in cases whereby the learning objectives specify the requirement to work collaboratively in teams,

solve more complex cases and those that require deep thinking. By coming together with face interaction, it also helps to develop learners' social interaction skills, form richer relationship among peers and also encourage peer learning. As learner interpersonal skills are developed, by working collaboratively, it also helps to better prepare learners for workplace in the near future. The experiences shared by learners while pursuing their undergraduate studies too pointed several positive experiences including seeing the benefits of having team members complete the task, face-to-face interaction is extensive and trust level were gradually build time over time. In addition, there were also peer support, encouraging and checking on one another. A large majority of learners see the value in preparing them in the workplace. On the whole, it was a good learning experience worth investing.

Though collaborative learning has many positive aspects that provide a foundation to develop cognitive, social and problem-solving skills, implementing do poses some learning challengers and corresponding solutions are suggested to overcome learning challengers including the use of "think-pair" share to better prepare learners prior to working collaboratively, how groups are to be formed, the importance of instructors visiting teams both to observe and assess learners to the assignment of roles. It is hope that educators could consider to use collaborative learning as a learning activity in their classes to engage with 21st century learners better.

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