THE DEVELOPMENT OF A PROGRAM FOR ENHANCING COOPERATIVE LEARNING AT ASSUMPTION UNIVERSITY: AN EXPERRIMENTAL STUDY

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ABSTRACT

Scant research attention has been given to enhancing cooperative learning behaviours using the experimental method in Thai culture. This experimental study aimed at developing a program for enhancing cooperative learning of students and testing the effectiveness of the program. Furthermore, it examined the influence of the cooperative learning program on students' level of (a) cognitive learning skills, (b) academic achievement, (c) emotional intelligence, and (d) organizational citizenship behaviours.

A true experimental research design with a pretest-posttest control group was implemented. Quantitative methods utilized descriptive as well as the inferential analyses. Independent sample t-test, paired t-test, and ANOVA were utilized as the major tools to test all hypotheses Qualitative methods utilized observations and written diaries with fist-hand experiences of students.

Six out of eight hypotheses were supported by the data. It was found that there was a significant improvement in students' (a) cognitive learning skills, (b) emotional intelligence, and (c) organizational citizenship behaviours in the experimental group after the treatment program was administered. However, there was no significant improvement in academic achievement after the treatment program was administered, thus one hypothesis had to be rejected.

Significant differences were also found in students' (a) cognitive learning skills, (b) emotional intelligence, and (c) organizational citizenship behaviours in the experimental group as compared to the control group after the treatment program was administered.

Furthermore, students with different genders did not have different levels of (a) cognitive learning skills, (b) academic achievement, (c) emotional intelligence, and (d) organizational citizenship behaviours. Students with different grade point averages did not have different (a) cognitive learning skills, (b) emotional intelligence, and (c) organizational citizenship behaviours.

However, differences in the academic achievement were found in that, students with higher grade point averages scored higher in academic achievement than students at the lower end of the continuum. Thus one hypothesis was partially supported by the data.

KEYWORDS: Cooperative Learning, Emotional Intelligence, Organizational Citizenship Behaviours, Academic Achievement.

INTRODUCTION

"The mediocre teacher tells. The good teacher explains. The superior teacher demonstrates. The great teacher inspires." (William Arthur Ward)

It is necessary for teachers these days to formulate changes in the ways t impart knowledge is imparted Teacher-centered education was popular in the past but today Learner-centered education has become more popular owing to the fact that students prefer to learn by doing and by getting involved in some form of activity that arouses their interest.

In order for students to perform at a maximum level of ability it is necessary for teachers to discover many styles of presenting information, to know which style works best in their classroom and which one is suited for which kinds of students. This is an arduous process but knowledge of this information can aid a teacher to avert students' boredom and furthermore alert students to full attention in a classroom.

The present study is concerned with developing a program to engage in cooperative learning in order to discover if this style works well in a culture like Thailand. It could be that students, who engage in cooperative behaviours, could more likely to have improved academic performance, increased satisfaction with their college experiences, and on a larger scale help to build the college community at-large with desirable behaviours like organizational citizenship behaviours and emotional intelligence. Besides this students can feel proud and a sense of unity when they evaluate their outcomes as a group rather than of themselves working alone. Also this could provide higher motivation for other future tasks

The Concept of Cooperative Learning

"Cooperative learning is instruction that involves students working in teams to accomplish a common goal, under conditions that include the following elements" (Johnson, Johnson & Smith 1991)

1. Positive Interdependence: Team members are obliged to rely on one and other to achieve the goals. If any of the team members fail to do their part, everyone suffers the consequences.

2. Individual accountability: All students in the group are responsible for doing their share of work and for mastery of all the material to be learnt.

3. Face-to-face promotion instruction: Although some of the group work may be parcelled out and done individually, some must be done interactively, with group members providing one another with feedback, challenging one another's conclusions, and reasoning, and perhaps most importantly, teaching and encouraging one and other.

4. Appropriate use of collaborative skills: Students are encouraged and helped to develop and practice trust building, leadership, decision-making, communication, and conflict management skills.

5. Group processing: Team members set group goals, periodically assess what they are doing well as a team, and identity changes they will make to function more effectively in the future.

The Concept of Academic Achievement and Emotional Intelligence

The term "*emotional intelligence*" or *"Social Intelligence"* was first proposed by (Salovey & Mayer 1990) using (Gardner's 1983) concepts of intrapersonal and interpersonal intelligence. (Mayer & Salovey 1997) believed that Emotional Intelligence "involves the ability to perceive accurately, appraise, and express emotions; the ability to access and/or generate feelings when they facilitate thought; the ability to understand emotion and emotional knowledge; and the ability to regulate emotions to promote emotional and intellectual growth". The dimensions of emotional intelligence are as follows:

1. Self Awareness- is the ability to know your own feelings and being aware of what reactions are made when we experience certain emotions.

2. Others Emotional Appraisal- is our ability to understand the emotions of others and is sometimes referred to as *"Empathy"* or *"Emotional Mentoring"* Empathy involves identifying the emotions of another person and being able to see the situation from that other person's perspective or putting yourself in another person's shoes.

3. Regulation of Emotions- indicates that a person should not display extreme emotions and should have the ability to calm themselves down when crisis arise. This includes using the right body language as well and the avoidance of getting physical and violent.

4. Use of Emotions or Self- Motivation is the ability to use high levels of energy to achieve our goals and to be intrinsically motivated.

The Concept of Organizational Citizenship Behaviours

Derived from (Katz's 1964) notion of extra-role behaviours, Organizational citizenship behaviours (OCBs) have been defined as "individual behaviours that are discretionary, not directly or explicitly recognized by the formal reward system and that in the aggregate promote the effective functioning of the organization." (Organ 1988). They are often described as behaviours that "go beyond the call of duty" or "good soldiers syndrome". (Organ 1988).

(Organ 1988) proposed five dimensions of OCBs.

1. Altruism: refers to behaviours directed toward helping or cooperating with other employees on organizationally relevant issues.

2. Courtesy**:** refers to behaviours directed toward the prevention of problems encountered by other co-workers.

3. Sportsmanship**:** refers to employees' willingness to disregard and not complain about impositions and minor inconveniences that arise in the workplace.

4. Civic virtue: refers to responsible political involvement in an organization.

5. Conscientiousness: refers to behaviours that go beyond what is minimally required relating to attendance, breaks, and general rule compliance

LITERATURE REVIEW

Numerous studies have been conducted on cooperative learning and it gained popularity because of many reasons. First, cooperative learning is related to a variety of theories in anthropology (Mead, 1936), sociology (Coleman, 1961), economics (Von Mises, 1949), political science (Smith, 1759) In psychology, cooperative learning can be traced to social interdependence (Deutsch, 1949, 1962; Johnson & Johnson, 1989), cognitive-developmental (Johnson & Johnson, 1979; Piaget, 1950; Vygotsky, 1978), and behavioral learning theories (Bandura, 1977; Skinner, 1968).

Second, the amount, generalizability, breath, and applicability of the research on cooperative, competitive, and individualistic efforts provides considerable validation of the use of cooperative learning, perhaps more than most other instructional methods (Cohen, 1994a; Johnson, 1970; Johnson & Johnson, 1974, 1978, 1989, 1999a; Kohn, 1992; Sharan, 1980; Slavin, 1977, 1991).

The third factor contributing to the widespread use of cooperative learning is the variety of cooperative learning methods available for teacher use, ranging from very concrete and prescribed to very conceptual and flexible. The following ten have received the most attention. Complex Instruction (CI) (Cohen, 1994b), Constructive Controversy (CC) (Johnson & Johnson, 1979), Cooperative Integrated Reading and Composition (CIRC) (Stevens, Madden, Slavin, & Farnish, 1987), Cooperative Structures (CS) (Kagan, 1985), Group Investigation (GI) (Sharan & Sharan, 1976, 1992), Jigsaw (Aronson, et al., 1978), Learning Together (LT) (Johnson & Johnson, 1975/1999a), Student Teams Achievement Divisions (STAD) (Slavin, 1978), Teams-Games-Tournaments (TGT) (DeVries & Edwards, 1974), and Team Assisted Individualization (TAI) (Slavin, Leavey, & Madden, 1986).

Previous research studies conducted on cooperative learning (Bilgin 2006， Bilgin & Geban 2004， Jones 1990， Lazarowitz 1991, Slavin 1995， Smith, Hinckley & Volt 1991， Wachanga & Mwangi 2004， Zacharia & Barton 2004) indicate that students who work together in small groups learn better, retain more information, and build up better relationships with classmates and group mates.

Furthermore cooperative learning enhances students' self-esteem (Box & Little 2003), motivation (Johnson & Johnson 1999a), social development (Gillies 2004， Jordan & Le Metaias 1997), and abilities to express their thoughts (Shachar & Sharan1994)

The researchers found one quasi-experimental study concerned with a comparison of students' achievement and attitudes between constructivist and traditional classroom environments in Thailand Vocational Electronics Programs, conducted by (Becker, Kurt H, Maunsaiyat & Somchai 2004). Hardly any research in Thailand attempted to use the experimental method to increase cooperative learning behaviours, emotional intelligence and organizational citizenship behaviours of students.

PROBLEM STATEMENT

Many researchers have conducted quantitative and qualitative studies on cooperative learning but few of them have actually developed a program to enhance cooperative learning in a classroom by using the experimental method. Hence the researchers wished to conduct a study titled, The Development of a Program for Enhancing Cooperative Learning at Assumption University: An Experimental Study**.**

Variables of the Study

Independent variable: Intervention Program for Cooperative Learning.

Dependent variables: Level of Cooperative Leaning, Academic Achievement, Emotional Intelligence, and Organizational Citizenship Behaviours.

OBJECTIVES OF THE RESEARCH

1. To design a program for enhancing cooperative learning of students.
2. To test the effectiveness of the program designed for enhancing cooperative learning of students.
3. To examine the influence of the cooperative learning program designed on students' level of cooperative learning, academic achievement, emotional intelligence and organizational citizenship behaviour.

RESEARCH HYPOTHESIS

H1: After the implementation of the program for enhancement of cooperative learning, students in experimental groups: Have higher cooperative learning skills than students in the control groups.

H2: Have higher academic achievement than students in the control groups.

H3: Have higher emotional intelligence than students in the control groups.

H4: Have higher organizational citizenship behaviours than students in the control groups.

H5: Have higher cooperative learning skills than before the experiment.

H6: Have higher emotional intelligence than before the experiment.

H7: Have higher organizational citizenship behaviours than before the experiment.

H8: Students with different genders and grade point averages have different levels of (a) cognitive learning skills, (b) academic achievement (c) emotional intelligence, and (d) organizational citizenship behaviours.

METHODOLOGY

A true experimental research designed with pretest-posttest control group design was applied in this study. The sample consists of 240 students enrolled in Managerial Psychology classes at Assumption University. The matching technique was utilized whereby 3 classes (120 students) were randomly assigned to be the experimental group and another 3 classes (120 students) were simultaneously selected as a control group.

The Cooperative Learning Survey Questionnaire which consisted of 3 scales was used. The scale measuring Organizational Citizenship Behaviours was modified from (DiPaola, Tarter & Hoy 2005) and consisted of 50 items with a reliability of .84, the Emotional Intelligence scale was adapted from (Law, Wong & Song 2004) and consisted of 16 items with a reliability of .89 and the Cooperative Learning scale was modified from (Asyali, Saatcioglu & Cerit 2005) and consisted of 27 items with a reliability of .91. Five-point Likert scales, varying from strongly agree to strongly disagree (5 to 1), were used for all construct measurement items.

A treatment program consisting of 20 activities was designed, based on the ADDIE model of instructional design (Dick W & Carey L 1996) and pilot tested.

MAJOR FINDINGS AND DISCUSSION OF THE STUDY

Table 1 Comparisons of the Key Constructs between Experimental and Control Groups

Focal Constructs		Statistical value			Results
		Experiment	Control	t-value [b]	
H1	Cooperative learning	3.94 (0.53)	3.74 (0.45)	2.98**	Support
H2	Academic Achievement	55.75 (9.89)	57.15 (10.23)	-.948 (NS)	Not Support
H3	Emotional intelligence (EQ)	4.01 (0.47)	3.82 (0.58)	2.56*	Support
H4	Organizational citizenship behaviour (OCB)	3.19 (0.29)	3.07 (0.27)	3.05 **	Support

Remarks: Each item is measured based on 5-point scale (5=Strongly agree/ Highest);
Standard Deviations are shown in parentheses.
Academic Achievement is based on the full score of 100
Mean Differences were tested by paired sample t-test; t-value is illustrated.
* p < .05; **p < .01; *** p < .001; NS = Not Significant

Table 1 indicates that significant differences in cooperative learning behaviour, organizational citizenship behaviours and emotional intelligence were found in the experimental and control groups, in that the experimental groups had higher cooperative learning behaviour, organizational citizenship behaviours and emotional intelligence after the treatment program (t=2.98, p<.01; t=2.56, p<.05; and t=3.05, p<.01, respectively). Thus, H1, H3, and H4 were supported by the data. However, a significant difference in academic achievement of the experimental and control groups were not found after the treatment program (t= -.948) and therefore H2 was rejected.

This could be attributed to the fact that cooperative learning skills, organizational citizenship behaviours and emotional intelligence can be socially learnt through modelling and vicarious learning and be continuously improved in one's life span since cooperation could be regarded as tacit knowledge. (Parsaye 1988) believed that there are three major approaches to the capture of tacit knowledge from groups and individuals

which are, interviewing experts, learning by being told and learning by observation. Research evidence also indicates that emotional intelligence was significantly correlated to conscientiousness, civic virtue, and altruistic behaviours (Tugba Korkmaz & Ebru Arpacı 2009) which are all dimensions of organizational citizenship behaviours.

It was noticed that during the treatment program students often went beyond their duties and tried to play the "Good Samaritan" to people in their groups or other groups who faced problems completing a task irrespective of receiving benefits for themselves and developed tolerance for slow or incapable members. Student's emotional intelligence could increase without them being aware since research suggests that nurturing emotional intelligence is best left to students' families, especially because there is no real definition of emotional intelligence (Sleek 1997, Becker 2003) Employees' citizenship behaviours were determined more by leadership and characteristics of the work environment than by an employee's personality (M A Konovsky & D W Organ 1996 & P M Podsakoff, S B MacKenzie & W H Bommer 1996). Therefore a teacher's behaviour can significantly influence a student's willingness to exhibit citizenship behaviours, cooperation and emotional intelligence.

In Thai culture one automatically displays voluntary behaviours since helping others is part of the culture. 'NAM JAI' is a value in which genuine acts of kindness or a voluntary extension of help, to someone you know or even a stranger, without the expectation of anything in return (Holmes & Tangtongtavy 1997)

A significant difference in academic achievement in the experimental and control groups was not found after the treatment program (t= -.948) since academic achievement is a construct that is related to intelligence levels of students. (Jensen 2000) agrees that intelligence bears a causal relationship to achievement and not the other way around. It is clear that intelligence in general shows a high degree of heritability, a measure of the degree to which a characteristic can be attributed to genetic, inherited factors (Petrill 2005, Miller & Penke 2007, Plomin 2009)

Table 2 Comparisons of the Key Constructs between Pre and Post Test Data

	Pre- VS Post-Experiment	Statistical Value			Results
		Post-test [a]	Pre-test	t-value [b]	
H5	Cooperative skills	3.94 (.53)	3.74 (.51)	8.62***	Support
H6	Emotional intelligence (EQ)	4.02 (.48)	3.75 (.51)	8.25***	Support
H7	Organizational citizenship behaviour (OCB)	3.19 (.29)	3.02 (.28)	11.91***	Support

Remarks: [a] Each item is measured based on 5-point scale (5=Strongly agree/ Highest);
Standard Deviations are shown in parentheses.
Academic Achievement is based on the full score of 100
[b] Mean Differences were tested by paired sample t-test; t-value is illustrated.
* p < .05; **p < .01; *** p < .001; NS = Not Significant

Table 2 indicates that significant higher scores in the post-test scores of the experimental group (t=8.62, 8.25, and 11.91; p<.001) indicate the effects of cooperative learning strategies that could enhance cooperative learning behaviour, organizational citizenship behaviours, and emotional intelligence of the students. Thus, H5, H6, and H7 were supported by the data.

Most students in the classroom were of Thai origin and it can be that culture could play an important part for the increase in post-test scores besides the treatment program per se.

The Thai word for 'FUN' is 'SANUK' which is a regular and important component of everyday life. The Thais believe that everything in life should at least try to be fun. Many Thais have a noticeable sense of humour and playfulness- to them. The Thais consider work important or valuable not so much as measure of success as in the degree of 'SANUK' that can be achieved. (Arne Kislenko 2004)

The traits of agreeableness and positive affectivity are rather high owing to the fact that Thais work hard to build and maintain relationships among a wide and complex network of people and interactions are more or less controlled within the context of a strong hierarchical system (Holmes & Tangtongtavy 1997). Thais also believe in harmony and tend to avoid open expression of their feelings and thoughts to others (Pratomthong & Baker 1983). This is well demonstrated by the Thai words "Mai Pen Rai" or never mind and is often used to convey that mistakes and inconveniences are not problems. Thais develop a high degree of sensitivity to recognizing the feelings and emotions of others (Mortlock 1989)

Table 3 Comparisons of the Constructs between Genders

Constructs	Statistical Value			Results
	Male	Female	F-value	
Cooperative Learning	3.91(0.60)	3.95(0.48)	-.292 (NS)	Not Supported
Organizational citizenship Behaviour (OCB)	3.18(0.27)	3.19(0.31)	-.230 (NS)	Not Supported
Emotional Intelligence (EQ)	3.99(0.52)	4.04(0.45)	-.484 (NS)	Not Supported
Academic Achievement	55.14(9.78)	55.76(9.91)	-.266 (NS)	Not Supported

Remarks: Each item is measured based on 5-point scale (5=Strongly agree/ Highest);
Academic Achievement is based on the full score of 100
Standard Deviations are shown in parentheses.
*p < .01; *** p < .001; NS = Not Significant

Table 3 indicates that the independent sample t-test has no significant differences in all factors between male and female students were found (t=-2.92.; -.266, -.484, and -.203; p>.05). Students with different genders do not have different levels of (a) cognitive learning skills, (b) academic achievement, (c) emotional intelligence, and (d) organizational citizenship behaviours

In Thai society gender roles overlap. Amongst Asians, Thai women have relatively high

status, a high degree of autonomy, are economically active and have numerous paid work opportunities outside the home (Yoddummern-Attig 1992)

Thailand has the lowest Masculinity ranking among the Asian countries listed at 34, compared to the Asian average of 53 and the World average of 50. This lower level is indicative of a society with less assertiveness and competitiveness, as compared to one where these values are considered more important and significant (Hofstede 1980)

It could be that in Thai culture men and women hardly complete among themselves but emphasize more on social relations and try to work in harmony with each other since Thailand's lowest Dimension is Individualism at 20. This is manifest in a close long-term commitment to the member 'group', which is a family, extended family, or extended relationships. Loyalty in a collectivist culture is paramount, and over-rides most other societal rules and regulations. The society fosters strong relationships where everyone takes responsibility for fellow members of their group (Hofstede 1980)

Table 4 Comparisons of the Constructs among Groups with Different GPAs

Construct	GPA					F	Results
	<2.00	2.00-2.50	2.51-3.00	3.01-3.50	3.51-4.00		
Cooperative Learning	3.51(0.31)	3.53(0.48)	3.59(0.51)	3.49(0.91)	3.91(0.61)	1.45 (NS)	Not supported
Organizational citizenship Behaviour (OCB)	3.13(0.47)	3.19(0.41)	3.22(0.25)	3.23(0.22)	3.14(0.18)	0.31 (NS)	Not supported
Emotional Intelligence (EQ)	4.27(0.65)	4.08(0.37)	3.97(0.51)	3.97(0.44)	4.01(0.58)	0.39 (NS)	Not supported
Academic Achievement	45.6(8.33)	48.1(6.71)	51.0(5.75)	59.3(6.22)	64.8(8.21)	19.28 ***	Supported

Remarks: Each item is measured based on 5-point scale (5=Strongly agree/ Highest);
Academic Achievement is based on the full score of 100
Standard Deviations are shown in parentheses.
*p < .01; *** p < .001; NS = Not Significant

Table 4 indicates that one-way ANOVA was performed to test the second part of hypothesis 8. Students were categorized into five groups i.e. with the grade point average (GPA) of less than 2.00, 2.00 to 2.50, 2.51 to 3.00, 3.01 to 3.50 and more than 3.51. Students with different GPAs do not have different levels of cooperative learning behaviour, organizational citizenship behaviours, and emotional intelligence.

However, differences in the academic achievement were found. Students with the GPA of 3.51 to 4.00 have highest academic achievement which was significantly different from groups with different GPAs. Those with the GPA of 3.01 to 3.50 have the second highest academic achievement while the rest of the three groups have no differences in academic achievement but significantly lower than the first two groups. Thus, Hypothesis 8 could be partially supported by the data.

Several studies have focused on the question of which students gain the most from cooperative learning. One particularly important question relates to whether cooperative learning has an impact on students at all levels of prior achievement. It would be possible to argue (Allan 1991, Robinson 1990) that high achievers could be held back by having to explain material to their low-achieving group mates. However, it would be equally possible to argue that because students who give elaborated explanations typically learn more than those who receive them (Webb 1992). Research evidence also points that very highest achievers, those in the top 10% and top 5% of their classes at pre-test, found particularly large positive effects of cooperative learning on these students (Slavin 1991, Stevens & Slavin 1995b)

OBSERVATIONS OF PARTICIPANTS

At the onset most participants were inhibited to interact and help each other but as the activities progressed, participants started to get comfortable with each other and developed a mutual understanding, emotional bonding, trust and respect for others since they became aware of their own strengths and weaknesses and that of others too.

The group activities diminished hostility and prejudices among the participants. The 'We' feeling encourage team spirit and affiliation with others resulted in helping, support and consideration of others. Participants also avoided "social loafing" by realizing that many hands make light work and as a result group synergy increased considerably. Toleration and patience for other participants who were backward with some tasks increased and participants avoided conflict. Participants realized that competing amicably to reach a 'win-win' solution was better than win-lose.

Finally participants learnt self-management skills and even attempted to be role models for other participants by being punctual, completing diaries on a daily basis, participating actively in the treatment program using division of labour.

SCOPE AND DELIMITATIONS FO THE STUDY

The researcher confined the study to students at Assumption University only rather than extending it other Universities. The data was collected from students of Managerial Psychology classes but other classes were excluded.

The study included students whose medium of instruction was English but excluded other mediums of instruction. The study was restricted to University students but other vocational students are excluded. Data was collected from students only and not from principals and teachers. Structured tools not semi-structured tools were used in the study.

The study included students from all faculties studying Managerial Psychology be limited to only certain number to be sure that the sample size was representative of the population.

SIGNIFICANCE OF THE STUDY AND IMPLICATIONS FOR FUTURE RESEARCH

The present study could be of help to other teachers and Principals who wish to implement similar programs in their schools and institutions. The teachers can identify if students prefer to learn alone or with others and on the basis of this cater to the students' needs.

By using cooperative learning, the teacher can also discover if the students' who are weaker in a subject or experience boredom benefit from learning this way. The students who help others may also find that they can understand the material taught by the teacher easily as well as find their own weak points.

Lots of research can be conducted by teachers of different levels in schools and universities and the impact of cooperative learning can be tested on other variables like motivation, self-esteem, self-efficacy, self-monitoring, decision-making, communication styles, leadership styles and attitudes.

Furthermore other cross-cultural studies could be conducted to find out if cooperative learning strategies have the same impact on different cultures and which cultures actually benefit form cooperative learning.

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