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University Students' Perception of Cooperative Learning in ESL Pedagogy

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Abstract: Learning English as a Second Language (ESL) is generally a difficult endeavor for many university students who speak a different language as the native language. Limited English Proficiency (LEP) students experience a more difficult task and need a low risk environment to practice English. Cooperative learning an established instructional strategy is increasingly being used in colleges and universities to address learning problems and offers increased opportunities for students' social development. Research has shown that cooperative learning is able to promote higher achievement, more positive interpersonal relationships and higher self-esteem compared to competitive and individualistic efforts. This study reports the perceptions of a group of first year LEP university students on cooperative learning as a technique in motivating them to learn. A questionnaire was used to collect responses from the students. The results and implications for the study highlight the need for a paradigm shift in pedagogy for course designers and instructors in order to meet students' language learning needs at the university.

Key words: University students, perception, cooperative learning, ESL pedagogy, Malaysia

INTRODUCTION

Cooperative Learning (CL), an established strategy is increasingly being used in colleges and universities around the world to assist students in their learning. In the last decades, CL has been established as one of the promising areas of theory, research and practice in education. CL is an instructional strategy which is structured and systematic whereby students research together in small groups towards a common goal (Cooper *et al*., 2002; Sharan, 1990; Slavin, 1995). Cooperative learning, a part of collaborative learning, offers increased opportunities for students' social development in allowing students to interact meaningfully in a supportive environment. CL research has shown that it is able to promote higher achievement more positive interpersonal relationships and higher self-esteem in comparison to competitive and individualistic efforts (Johnson *et al*., 1991). In light of these earlier findings, this study was conducted to investigate the perceptions of a group of first year Low English Proficiency (LEP) university students on the use of CL in motivating them to learn.

CL techniques and procedures range from concrete and well-defined instructional steps to more conceptual and flexible frameworks which educators may use to plan and implement their instruction. It differs from the traditional group research whereby it is structured based on the principles of positive interdependence among participants, face to face promotive interaction, individual accountability use of interpersonal skills and constant effort to improve future group effectiveness. Johnson *et al*. (2000) identified a total of 10 prominent and modern CL methods developed by researchers in terms of its procedures, evaluation and implementation. Some of these models include The structural approach (Kagan, 1994), group investigation (Sharan and Sharan, 1992), student team investigation (Slavin, 1992) and learning together (Johnson *et al*., 1993). These models each has important features such as the extent in which each allows for individualistic learning and inter-group or intra-group cooperation and competition (Ghaith and Bouzeineddine, 2003). However, they also share certain elements such as positive interdependence, individual accountability and face to face interaction in a supportive and stressed-reduced environment.

A number of studies provide support for the use of CL in English as a Second Language/Foreign Language (ESL/EFL) pedagogy. Ghaith (2003) examined the relationship between cooperative, individualistic and

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competitive forms of instruction, achievement in English as a Foreign Language (EFL) and perceptions of classroom climate on 135 university-bound EFL learners using a modified version of the classroom script. He found that CL was positively correlated with learners' perception of fairness of grading, class cohesion and social support. However, individualistic and competitive instructions are found to be unrelated to any aspects of the class climate. In addition, the results also revealed statistically significant differences between the low and high cooperative groups in terms of the achievement and perception of fairness of grading, class cohesion and social support. Other studies show that CL is able to promote positive attitudes, intrinsic motivation and satisfaction and active pursuit of group goals (Ghaith, 2003; Shaaban, 2006; Qin *et al*., 1995).

MATERIALS AND METHODS

The study, a quasi experimental kethod, employed a non-equivalent control group design with intact group (Gay and Airasian, 2003). The level of the students' proficiency and background knowledge were considered as factors that could affect the original difference between groups. A quasi-experimental design is considered to be suitable for this particular academic setting since the subjects are not randomly selected (Campbell and Stanley, 1966).

A total number of 84 1st year university students participated in the study. Their ages range between 19-21 years and they had all enrolled in the first semester English course. The students were enrolled to do 4 contact h of the university English course VH 2012/2022 Interactive Reading Skills.

Four intact classes of students were randomly selected from a total of eight English classes. Two classes were randomly assigned to the CL groups whereas the other two groups were exposed to the conventional reading class. As for the instructors, two were assigned to the CL groups and the other two followed the conventional reading class instruction. The CL group instructors were trained over a period of 3 sessions of 3 h each. The training of the students in the CL groups lasted for 10 weeks.

Research instrument: The questionnaire was adapted from Johnsons' Classroom Life Instrument (Johnson and Johnson, 1999). Face and content validity of the questionnaire were determined by three qualified lecturers whose research interest was in cooperative learning. The questionnaire comprised structured items with a 4 point Likert scale (1 = srongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree) to measure the responses. The questionnaire was translated into the national language, Bahasa Melayu, the language with which students are familiar. The translation was validated by a Bahasa Melayu/English Translation lecturer at the Centre of Language Studies and Linguistics, University Kebangsaan Malaysia.

The total number of items was 93 with fourteen types of variables. For each type, between 4-11 items were constructed (Appendix 1). The 14 variables are as shows in Table 1.

The students' questionnaire comprised two parts: part 1 represents the background information of the respondents' identification number, the faculty they belong to the program of study they are currently pursuing, gender, SPM (Sijil Pelajaran Malaysia, a standardized Malaysian exam) English Grade, MUET (Malaysian University English Test) band and their earlier english course grade. The second study contains 93 items. The questionnaire was administered to students at the end of the 10 weeks instruction.

Table 1: Student questionnaire variables

Variables	Description
Cooperation	Liking for and positive attitudes toward working cooperatively with other students
Goal interdependence	Perceptions of joint outcomes and ensuring that all group members learn the assigned material
Resource interdependence	Perceptions of sharing materials and having a division of labour
Cohesion	Belief that students in the class are friends and like each other
Academic self-esteem	Belief that one is a good student and is doing a good job in learning
Fairness of grading	Belief that students get grades they deserve and if one works hard, one succeeds
Individualistic learning	Belief that a student learns things by working on their own
Competitive learning	Belief that a student does well in school in competing with one another
Controversy	Belief that one learns new things when one argues and learns to overcome the differences
Valuing heterogeneity	Belief that a student will learn more from those who are different from them
Academic learning outcome	Belief that the students' academic ability will be enhanced in working together
Social learning outcome	Belief that a student's social skill will improve when working in a group
Attitude	The change in students' attitude towards learning from negative to positive
Effective group interaction	Working in groups will benefit the students and improve their interpersonal skills

RESULTS

The subjects' demographic data collected are as illustrated in the Table 2-5. The demographic information include gender, Sijil Pelajaran Malaysia (SPM) English result, Malaysian University English Test (MUET) band and earlier English result. As shown in Table 2, there are 44 subjects in the CL group comprising 1 (2.3%) male and 43 (97.7%) female students. Whereas in the control group, there are 5 (12.5%) male and 35 (87.5%) female students. The total number of subjects for both groups in terms of gender is 6 (7.14%) male and 78 (92.8%) female subjects.

Table 3 shows the number and percentages of the subjects according to the Sijil Pelajaran Malaysia (SPM) english results. The highest grade is 1 and the lowest is 9. In the CL group, 1 (2.2%) student obtained grade 3, 1 (2.2%) grade 5, 3 (6.8%) grade 6, 14 (31.8%) grade 7, 7 (15.9%) grade 8 and 18 (40.9%) grade 9. In the non-cooperative learning group, 1 (2.5%) student obtained grade 4, 2 (5%) grade 5, 1 (2.5%) grade 6, 12 (30%) grade 7, (22.5%) grade 8 and 15 (37.5%) grade 9. The SPM English grades of the subjects show that a majority of the students obtained low grades indicating a low proficiency in English.

The Malaysian University English Test (MUET) is a pre-university proficiency test which tests all the four components of language: listening, speaking, reading and writing. It is designed to measure the students' level of english proficiency based upon an aggregate score which ranges from 0-300. Candidates are placed on an aggregate score range with respect to six levels of achievement: proficiency levels bands 1-6. The bands are based on the aggregate scores. The bands range from band 10-6. Each band represents the proficiency level of the students ranging from extremely limited user, limited user, modest user, competent user, good user and very good user, respectively. For instance, a student who obtained a band 1 (<100 aggregate score) for his MUET, indicates that he has a poor command of the language.

Table 4 shows the distribution of all subjects according to the MUET bands. In the CL group, 35 (79.5%) students are in band 1, 7 (15.9%) in band 2 and 2 (4.5%) in band 3. As for the non-CL group, 30 (75%) are in band 1 and 10 (25%) in band 2. In general, a majority of the students belong to the limited to extremely limited-user category. Table 5 shows the subjects' distribution according to the results of the earlier English course that they have taken in the earlier semester. This English course is a compulsory academic reading course that all first year students have to take according to their subject disciplines.

Based on the demographic data, it can be observed that there are more female students (97.7%) in the CL group in comparison to the male students (2.3%). In relation to the SPM results, 2.2% of the students obtained grade 3, 2.2% grade 5, 6.8% grade 6, 31.8% grade 7, 15.9% grade 8 and 40.9% grade 9. As for the MUET results, approximately 79.5% of the students are in band 1, 15.9% band 2 and 4.5% band 3 for the CL group. Similarly, in the non-CL group there are more female students (87.5%) in comparison to the male students (12.5%). In terms of the SPM English results, 2.5% of the students obtained grade 4, 5% grade 5, 2.5% grade 6, 30% grade 7, 22.5% grade 8 and 37.5% grade 9. For MUET, approximately 75% of the students are in band 1 and 25% in band 2.

Table 6 shows the mean scores and standard deviations of the CL variables. The data obtained from the subjects were also statistically analysed using the MANOVA test. Preliminary assumptions of the MANOVA test were determined via checks on normality,

Table 2: Gender by teaching approach

	Cooperative learning		Non-cooperative learning	
Gender	No.	Percentage	No.	Percentage
Male	1	2.3	5	12.5
Female	43	97.7	35	87.5
Total	44	100.0	40	100.0

Table 3: SPM grades by teaching approach

	Cooperative learning		Non-cooperative learning	
SPM English results	No.	Percentage	No.	Percentage
1	0	0.0	0	0.0
2	0	0.0	0	0.0
3	1	2.2	0	0.0
4	0	0.0	1	2.5
5	1	2.2	2	5.0
6	3	6.8	1	2.5
7	14	31.8	12	30.0
8	7	15.9	9	22.5
9	18	40.9	15	37.5
Total	44	100.0	40	100.0

Table 4: Muet bands by teaching approach

	Cooperative learning		Non-cooperative learning	
MUET bands	No.	Percentage	No.	Percentage
1	35	79.5	30	75
2	7	15.9	10	25
3	2	4.5	0	0
Total	44	100.0	40	100

Table 5: Previous English results by teaching approach

	Cooperative learning		Non-cooperative l	
Previous English results	No.	Percentage	No.	Percentage
A	0	0.0	1	2.5
A-	1	2.2	1	2.5
B+	0	0.0	2	5.0
B	2	4.5	1	2.5
B-	3	6.8	1	2.5
C+	2	4.5	9	22.5
C	6	13.6	2	5.0
C-	18	40.9	14	35.0
D+	12	27.2	9	25.0
Total	44	100.0	40	100.0

Table 6: Descriptive statistics of student questionnaire variables

	Cooperative learning			Non-cooperative learning		
Variables	M	SD	n	M	SD	n
Cooperation	31.90	3.30	44	31.40	2.99	40
Goal interdependence	13.13	1.94	44	12.92	1.89	40
Resource interdependence	16.16	1.45	44	15.60	2.01	40
Cohesion	22.29	1.89	44	22.60	2.22	40
Academic self-esteem	20.36	1.31	44	20.02	1.80	40
Fairness of grading	22.36	1.25	44	21.50	2.06	40
Individualistic learning	20.15	3.58	44	23.27	3.50	40
Competitive learning	24.36	3.49	44	24.47	3.34	40
Controversy	10.31	1.13	44	9.35	1.71	40
Valuing heterogeneity	14.70	0.92	44	13.20	2.09	40
Academic learning outcome	13.20	1.54	44	12.22	1.77	40
Social learning outcome	15.88	1.61	44	15.17	1.41	40
Attitude	20.56	1.28	44	20.12	1.45	40
Effective group interaction	25.22	1.52	44	23.30	1.89	40

linearity, univariate and multivariate outliers, homogeneity of variance/covariance matrices and multicollinearity (Tabachnick and Fidell, 1996). The normality of the score distribution and linearity of the relationships among variables were visually inspected and observed through graphical representations. Based on the examination of the normality probability plot and scatter plot charts, no violations were noted. Non-normality and non-linearity were not found. A Box's m-test of Equality of Covariance Matrices was conducted to determine the homogeneity of the variance-covariance matrices. It was found that the variance-covariance among the dependent variables was the same for all levels of the factors ($F = 1.37$, $p>0.05$). Thus, the assumption of homogeneity of variance-covariance matrices was not violated (Table 7).

The preliminary results of the MANOVA test are as in Table 8. For the purpose of this research, the Wilks' Lambda test was chosen as it is conventionally used for the social sciences. The results of the MANOVA showed that there was a significant difference between the two groups where the Wilks' Lambda value was 0.552, $F(14, 69) = 3.99$ and $p = 0.000$ ($p<0.05$). The findings showed that there was a significant difference between the two groups in terms of their perceptions of CL.

Since, there was a significant difference detected in the mean scores of the dependent variables between the CL and non-CL groups, an analysis of variance test (Multiple ANOVA) on each dependent variable was administered. The procedure was considered as a follow-up test to the MANOVA and was meant to identify the dependent variables affected. The Bonferonni adjustment was utilized to control for Type 1 error with each ANOVA tested at the 0.0036 significance level.

After applying the Bonferonni Method, the results showed that there was a significant difference between CL and non-CL groups on four dependent variables which include (Appendix 2): Individualistic learning: $F(1,82) = 16.1$, $p = 0.000$, partial eta sq 0.165, Controversy: $F(1, 82) = 9.43$, $p = 0.003$, partial eta sq 0.103, Valuing heterogeneity: $F(1,82) = 18.7$, $p = 0.000$, partial eta sq 0.186, Effective group interaction: $F(1,82) = 26.5$, $p = 0.000$, partial eta sq 0.245

Table 7: Box's M-test

Box's M	F-value	df1	df2	Sig.
204.4	1.372	120	20453	0.004

Table 8: MANOVA analysis by teaching approach

Effect	Value	F	Hypothesis df	Error df	Sig.	Partial eta squared	Observed power
Groups							
Pillai's trace	0.448	3.99	14	69	0	0.448*	0.999
Wilks' lambda	0.552	3.99	14	69	0	0.448*	0.999

*Sig. at 0.05

An examination of the mean scores indicated that the non-CL group reported a slightly higher level of individualistic learning ($M = 23.27$, $SD = 3.50$) than the CL group ($M = 20.15$, $SD = 3.58$). On the variables controversy, valuing heterogeneity and effective group interaction, the mean scores of the CL group were found to be higher than the non CL group (Table 6).

DISCUSSION

Based on the results of the analyses of the data, it was found that there was a statistically significant difference in the mean scores of the CL and non-CL groups. Only four of the dependent variables were statistically significant: individualistic learning, controversy, valuing heterogeneity and effective group interaction.

In individualistic learning, the mean score of the non-CL group was slightly higher than the CL group. This was expected as the non-CL group did less cooperative group research. As for the other three variables; controversy, valuing heterogeneity and effective group interaction, the CL group obtained a higher mean score because CL was regarded positively by the students. The students perceived that they were able to learn more from controversy and from others who may be different from them. In addition, the CL group students perceived that they had achieved effective group interaction with the help of CL. This finding supports various earlier research conducted on CL instruction.

CONCLUSION

This study examined the use of CL as a way to motivate LEP students in an English as a Second Language (ESL) context. In addition, the subjects' perceptions on CL instruction were analysed. Findings from the study revealed that there was a significant difference between the CL and non-CL groups. This result supports earlier findings of the viability of CL as an instructional method that could be used to motivate second language LEP students learning.

In terms of pedagogical implications, CL could be incorporated in course design as one of the main Methods to be used in ESL instruction especially with LEP students. Incorporating CL will enable course designers to structure positive interdependence, individual accountability and social interaction in the lessons. By incorporating CL into course design, teachers would be induced to apply the method to his/her teaching approach.

As for the class instructors, the use of CL could assist them in making the lesson more student-centered and interactive. Students could be guided to use structured group research so that they could learn in a non-threatening environment. Cooperative learning could be a viable tool in motivating LEP students in the ESL class because the students could research together toward a common goal.

APPENDICES

Appendix 1: Students' questionnaire

Variables	No. of items	Sample questions
Cooperation	10	I share my ideas and reading materials with other students Saya berkongsi idea dan bahan bacaan dengan pelajar lain
Goal interdependence	4	When we research together in small groups, we try to make sure that everyone in the group learns the assigned material Apabila berkerjasama dalam kumpulan kecil, kami cuba memastikan semua ahli dalam kumpulan mempelajari bahan yang diberikan
Resource interdependence	5	When researchers research together in small groups, researchers cannot complete an assignment unless everyone contributes their share Apabila berkerjasama dalam kumpulan kecil, kami tidak dapat menyiapkan tugasan sehingga semua ahli kumpulan menyumbang bahagian mereka
Cohesion	8	I find it easy to express my thoughts clearly in small group discussion Saya rasa amat senang untuk mengeluarkan buah fikiran dengan jelas dalam perbincangan kumpulan kecil
Academic self-esteem	7	I am satisfied with my class achievements Saya berpuashati dengan pencapaian saya dalam kelas
Fairness of grading	7	When researchers research together in small groups, researchers all receive the same grade Apabila berkerjasama dalam kumpulan kecil, kami semua mendapat gred yang sama
Individualistic learning	11	In this class it is important that researchers learn things by ourselves Dalam kelas ini, adalah penting bagi kami untuk belajar sendiri
Competitive learning	8	I like the challenge of seeing who's best Saya suka cabaran untuk mengetahui siapakah yang terbaik
Controversy	4	I learn new things from arguing with other students Saya mempelajari perkara baru apabila berhujah dengan pelajar lain
Valuing heterogeneity	5	I learn more from students who are different from me Saya mempelajari lebih dari pelajar yang mempunyai banyak perbezaan dengan saya
Academic learning outcome	4	I understand my class tasks better when I learn in group Saya lebih memahami tugasan kelas saya bila belajar dalam kumpulan
Social learning outcome	5	I find it easier to talk to the other members in the class Dengan kerja kumpulan, saya rasa lebih mudah untuk bercakap dengan pelajar lain dalam kelas
Attitude	7	I enjoy working on a task with other students Saya suka melaksanakan tugasan dengan pelajar lain
Effective group interaction	8	When we work in groups,we help one another to complete the assignment Bila belajar secara berkumpulan, kami saling membantu untuk menyiapkan tugasan
Total	93	

Appendix 2: Multivariate tests of between subjects effects of student questionnaire

Source	Type III sum of squares	df	Mean Square	F	Sig.	Partial eta squared	Observed power (a)
Group							
Cooperation	5.430	1	5.430	0.561	0.456	0.007	0.115
Goal interdependence	0.936	1	0.936	0.253	0.617	0.003	0.079
Resource interdependence	21.528	1	21.528	7.117	0.009	0.080	0.751
Cohesion	1.943	1	1.943	0.457	0.501	0.006	0.102
Academic self-esteem	2.403	1	2.403	0.979	0.325	0.012	0.165
Fairness of grading	15.628	1	15.628	5.472	0.022	0.063	0.638
Individualistic learning	203.424	1	203.424	16.166	0.000	0.165	0.978
Competitive learning	0.260	1	0.260	0.022	0.882	0.000	0.052
Controversy	19.640	1	19.640	9.438	0.003	0.103	0.859
Valuing heterogeneity	47.429	1	47.429	18.738	0.000	0.186	0.990
Learning outcome: academic	20.104	1	20.104	7.290	0.008	0.082	0.761
Learning outcome: social	10.603	1	10.603	4.571	0.035	0.053	0.561
Attitude	4.115	1	4.115	2.203	0.142	0.026	0.311
Effective group interaction	77.825	1	77.825	26.576	0.000	0.245	0.999

REFERENCES

Campbell, D.T. and J.C. Stanley, 1966. Experimental and Quasi-Experimental Design for Research. Holt, Rinehart and Winston, New York, Pages: 157.

Cooper, J.L., P. Robinson and M. McKinney, 2002. Cooperative learning in the classroom. Network for Cooperative Learning in Higher Education.

Gay, L.R. and P. Airasian, 2003. Educational Research: Competencies for Analysis and Application. 7th Edn., Merrill/Prentice Hall, USA., ISBN: 0130994634.

Ghaith, G., 2003. The relationship between forms of instruction, achievement and perceptions of classroom climate. Educ. Res., 45: 83-93.

Ghaith, G.M. and A.R. Bouzeineddine, 2003. Relationship between reading attitudes, achievement and learners perceptions of their Jigsaw II Cooperative Learning experience. Reading Psychol., 24: 105-121.

Johnson, D.W. and R.T. Johnson, 1999. Learning Together and Alone: Cooperative, Competitive and Individualistic Learning. 5th Edn., Allyn and Bacon, London, ISBN: 13-9780205287710, Pages: 260.

Johnson, D.W., R.T. Johnson and E.J. Holubec, 1993. Circles of Learning: Cooperation in the Classroom. 4th Edn., Interaction Book, Edina, MN.

Johnson, D.W., R.T. Johnson and K.A. Smith, 1991. Active Learning: Cooperation in the College Classroom. 3rd Edn., Interaction Book Company, Edina, MN., USA., ISBN: 13-9780939603145, Pages: 270.

Johnson, D.W., R.T. Johnson and M.E. Stanne, 2000. Cooperative Learning Methods: Meta-Analysis. University of Minnesota Press, Minneapolis, MN.

Kagan, S., 1994. Cooperative Learning. 2nd Edn., Kagan Cooperative Learning, San Juan Capistrano, CA.

Qin, Z., D.W. Johnson and R.T. Johnson, 1995. Cooperative versus competitive efforts and problem solving. Rev. Educ. Res., 65: 129-143.

Shaaban, K., 2006. An initial study of the effects of cooperative learning on reading comprehension, vocabulary acquisition and motivation to read. Reading Psychol., 27: 377-403.

Sharan, S., 1990. Cooperative Learning: Theory and Research. Praeger Publishers, New York, Pages: 314.

Sharan, Y. and S. Sharan, 1992. Expanding Cooperative Learning Through Investigation. Columbia University, Teachers College Press, New York.

Slavin, R.E., 1992. When and Why Does Cooperative Learning Increase Achievement? In: Interactions in Cooperative Groups: The Theoretical Anatomy of Group Learning, Hertz-Lazarowitz, R. and N. Miller (Eds.). Cambridge University Press, Cambridge, pp: 145-173.

Slavin, R.E., 1995. Cooperative Learning: Theory, Research and Practice. 2nd Edn., Allyn and Bacon Inc., Massachusetts.

Tabachnick, B.G. and L.S. Fidell, 1996. Using Multivariate Statistics. Harper Collins College Publisher, California State Universty, Northridge.