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Cooperative learning approach to improve soft-skills among university students

Mohd Azmir b Mohd Nizah¹, Ainurliza Mat Rahim², Adibah Sulaiman@Mohamad¹ ¹Centre for International & Core Studies, Universiti Sains Islam Malaysia, 71800 Nilai, Negeri Sembilan, Malaysia.

ABSTRACT

²Faculty of Leadership & Management, Universiti Sains Islam Malaysia, 71800 Nilai, Negeri Sembilan, Malaysia.

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Instructional Education, Teaching Learning, Higher Education Institution, Academic Achievement, Classroom Management. This study is aimed to determine whether Cooperative Learning Approach will improve the soft skills among university students and to discover the perception of student towards such approach. Data obtained is analyzed by descriptive as well as inferential statistics. Data on demographic were analyzed by means and percentage, while the paired t-test was used to analyze before and after experiencing Cooperative Learning Approach, in which 0.05 a significant level was established to prove that student's soft-skills has improved. From 9 key competencies of soft skills that being evaluated, surprisingly result shown that students really improved their soft skills after using Cooperative Learning Approach. In sum, Cooperative Learning Approach can be used as instructional classroom strategy in tertiary education as to improve student's soft skills and thus increasing their employability chances.

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Introduction

University qualifications are no longer a passport to guarantee ones employment and a successful career. Report by Human Resources Ministry of Malaysia (MOHR) (2009), identifies that from 151,540 active graduates registrants, 71, 556 graduates are unemployed for various reasons. Considering a report from Jobstreet.com (2009), among other reasons why many employers reluctant to employ fresh graduate, are (i) Poor command of English language (55.8%), (ii) Attitude, poor character and personality (37.4%), (iii) Over salary/benefit demand (33%), (iv) Mismatch of skill (30.2%), (v) Weak problem solving skills (25.9%), (vi) Insufficient in-depth knowledge (23.8%). Scholars, such as Soo, K.T. (2007) and Pauw (2008) agreed that, this situation is due to a low proficiency in soft skills (or some other places, such as Australia prefer to use generic skills, or in France opted to use transferable skills), especially in group work condition and communication skills.

The rapid changes of world's industrial sectors, such as Information & Communication Technology (ICT), manufacturing, marketing, and technology and others, gave result to a highly competitive industry. These changes require versatile and dynamic human capital to face up the challengers. It is clearly enough, how important of soft skills not only to complement the hard skills (knowledge that required through periodically), but more so on completion of those. Therefore, this study will try to prove, that by using Cooperative Learning Approach, it can somehow or rather to improve student soft skills, and thus beneficiated the industry soon after graduated.

Soft skills are also known as generic skills, core skills, key skills, transferable skills, employability skills, basic skills or key competencies as using by eight different countries. According to Department of Education, Science and Training, Australia (2006), soft skills (generic skills) are non technical skills in which play a significant role in developing ones effectiveness and successfulness in workplace. Hager et.al (1997) note that

Tele: +606-798 6362,+603-89467176,+606-798 8758,+606-798 6357 E-mail addresses: azmirnizah@usim.edu.my, kjusoff@yahoo.com,ainurliza@usim.edu.my,adibah@usim.edu.my © 2011 Elixir All rights reserved

poor techniques; and using technology, are identified as providing satisfactory list of soft skills needed (Field & Mawer,1996; and Ryan, 1997).
Research shows that these soft skills are overlap as outcome and also as process that underpin a higher competencies, and thus consequently potentially improving learning in integrated and holistic way (Down, 1998); Hager et. al (1996); Jasinski (1996); Marett & Hoggard (1996); Lohrey (1995). However, scholars do agree that soft skills are essential skills that be the criteria of preferences in workplace (Hager et. al, 1997; Ryan,

1997; Jasinski, 1996; and OTFE et. al, 1996). With the important of soft skills to be embedded in training and education, many initiatives have been done by various universities to improve their curricula in meeting the demand of industry related. Graduates, as human capital must be marketable and targeted by employers, and consequently enhancing the image of university as an institution that are able to produce 'work-ready' graduates. Curriculum has been revised in order to instill the soft skills among graduates. Lecturers are not being left out since new approach is required in embedding soft skills that has been identified. Traditionally, instructional education in university has been full of content-based and more on teacher-centered learning approach. They were more focused on the narrow domains of course, in which it is extra-inadequate for preparing student for job world (Smith, 2010). Scholars agree to some extent that this type of learning approach is weak in term of student comprehension, and thus it needs to vary the

this key competencies or soft skills are interpreted in different

ways across and within individual stakeholders. But, it is

nevertheless, to be relevant and actually present in today most

training curricula and most working environment. Seven

Mayer's key competencies (1992) that include collecting,

analyzing and organizing information; communicating ideas and

information; planning and organizing activities; working with

others; solving problem; using mathematical ideas and

approach by engaging student in some activities (Biggs, 1999; Grasha, 1976; Bligh, 1972).

Therefore, in order to overcome the weaknesses in this type of instruction, lecturers may incorporate the Cooperative Learning Approach in their teaching and learning process. Cooperative Learning (CL) Approach is an instructional paradigm that focuses on student engagement in small group, which enable them to maximize their learning experience. CL is comprising few essential components, such as interdependence positively, face-to-face interaction, individual and group accountability, and regular assessment of team functioning (Johnson, Johnson, & Holubec, 1993). Cooperative Learning (CL) exists with some variations as for example, Learning Together, Student Team-Achievement (STAD), Circles of Learning, Team Game Tournament, Group Investigation, and also Jigsaw. All these variations are specific model in CL that student or instructor can be used in learning process. Research shows that CL can incorporate all types of student at any level. Gehringer (2006) notes that CL has been proven to increase retention and enhance the academic performance of at-risk student. Studies also show that CL can improve an academic performance of university student (Gonzalez, 2006; Chemwai, Kiboos & Ilieva, 2005), promoting higher achievement than individual learning styles to all students (Stevens & Slavin, 1995), enhancing self-esteem, social acceptance and teacher rating for students with disabilities (Putnam, Markovchick, Johnson & Johnson, 1996), guide in shaping student behaviour (Johnson & Johnson, 1975), helping student in creative and critical thinking (Phawani, 1997). Recent researches by Azlinda (2009); Awang (2006); Ballantine & Larres (2007); and Tiat et al. (2001) show an improvement of soft skills among student when CL is applied and incorporated in their lesson.

This study aimed to determine the effectiveness of using cooperative learning approach in improving university student's soft skills. Therefore, this study has placed 3 research questions that are (1)To what extent student implementing cooperative learning approach in finishing their task? (2) How the students did perceive themselves in doing such task? and (3)To what extent student soft skill improved before and after Cooperative Learning Approach is introduced?

In order to make amend this researches statistically, a hypothesis being formulated.

H1: There is statistically significant improvement in soft skill of student after implementing cooperative learning approach.

This study is significant as it will encourage lecturers at higher education institution to use such approach if the result is beneficial in teaching and learning process. Besides that, it also adds to the body of literature on the effect of cooperative learning on soft skills.

Methods and Materials

The study used quantitative mode whereby a quasiexperimental research design was employed. A pre test/post test was carried out in the beginning of semester (week 3) and before the end of semester (week 13). Therefore, data were accumulated and compared before and after treatment (by using Cooperative Learning Approach) by same measurement scale.

The population of the study is 1,200 students from Islamic Science University of Malaysia, taking Creative Thinking and Problem Solving course in Semester II 2009/2010. Sample size is determined by the number of students under tutorial group of the researchers and, thus, they numbered 490. Respondents were required to answer a self-assessed questionnaire. Time taken to complete the questionnaires was between 10 - 15 minutes.

This study was based mainly on two sets of questionnaire. Questionnaire 1 is divided into two parts. Part 1 consists of respondent demography (gender, year of study and faculty). Respondents need to answer demographic questions as to provide little statistical socio-economic variable to the study. Demographic factor is important in this study because the role that it plays in identifying personal characteristic of a population would to a certain extent explain the background of respondents. It would then correlate performance and satisfaction with the test system among different groups of users. In Part 2, there is a simple, self-regulated questionnaire based on Mayer's Key Competencies. However, some modifications from key competencies were removed since it was not relevant in this study. There was no question concerning mathematical ideas and techniques due to irrelevant subject.

Questionnaire 2 was based on Lara & Reparaz (2005) sets of questionnaire that study on the effectiveness of Cooperative Learning Approach. This study prolonged that sets of questionnaire as to determine the consistency of cooperative learning being used in their tutorials and assignment, and their general evaluation of cooperative learning. The questionnaire used Likert scale, with 0 being never and 5 being always. There were 11 questions in features of cooperative learning and 5 in general evaluation of cooperative learning. Questionnaire 2 also included Mayer's Key Competencies domain in order to examine the progress of soft skills among students.

The study used analysis of covariance which involved pretest as a covariate, treatments or activities as the design factor, and post-test as a response. A pre-test questionnaire (Questionnaire 1) was given to respondents in their tutorial class. The pre-test questionnaire objective is to determine student's soft skills level in week 3, where tutorial classes commenced. Based from Student Team Achievement Division (STAD) method (Slavin, 1978), an approximately 30 students were divided heterogeneously and equally into several small groups. They sit in circle. Every group member was assigned to fill certain position such as leader, assistant, and secretary, where the group members have to decide on their own based on group communication. Groups were given a workbook, as a record of their activity during the tutorials period. Students were expected to sit in circle in every tutorial class, though they will not be given instruction to do so. In six alternate tutorial classes, students were given specific task(s) to complete. The tutor provided a brief tutorial to acquaint students with the respective task. The task required them to discuss together, to share ideas, and to respect others' ideas as well. Everyone had to develop some sense or understanding of the cooperative learning in order to complete task(s). Every group was asked to interpret the task and to come to its own conclusions about the task.

After all activities were complete in the six tutorial classes (in week 13 roughly), a post-test questionnaire (Questionnaire 2) was issued to find out specific details on students consistency using cooperative learning in their session, and determine their general evaluation on cooperative learning. Data collection consisted of quantitative measurement via SPSS and qualitative experience of the participants, especially their subjective perspectives about activities and tasks.

Results and Discussions

Demographic profile of the respondent's shows that a significant number of them were Faculty of al-Quran & Sunnah (FPQS) students, comprising 46.7% of the total number of respondents. While the rest of the students are from Faculty of Economic & Muamalat (FEM) with 28.1%, Faculty of Major Languages (FPBU) with 25% and Faculty of Leadership & Management (FKP) with only 0.2%. 75% of the respondents are female students.

Based on the analysis of cooperative learning among the students, 95.8% shared information with their colleagues concerning the subject. Only 4.2% respondents never did it. Analysis of student participation in group discussion in order to make a decision showed that 62.5% did discuss among group member to make a decision. However, 14.4% respondents did not join group meeting. The result of the fifth item, which is students' usage of group workbook to plan, is questionable. 75.8% respondent maintained that they used workbook, though they were not given any booklet yet. As far as the benefit of group activities was concerned, 1.5% respondents asserted that they never saw any advantage. Although the majority of them maintained that they would gain benefit from group activities, there is a decline in students' viewpoint on the level of their learning process while engaging in group discussion.

According to the result of the seventh item, it demonstrates that 32.5% students believed that they always learn more when engaged in group. This is contradicted to the result of the sixth item that shows 44% students thought that group activities benefit their group and them personally. All in all, 67.6% maintained that they gained more knowledge. In regards to students' contribution of ideas, 95.1% engaged in solving problem(s) arisen in group. An 85% student maintained that they used technology and internet in particular to accomplish their group task. However, surfing the internet has never been done by another 70 students to complete the task given to their group.

The first part of the questionnaires observed key competencies of the respondents, which are derived from Mayer's soft skills on cooperative learning. According to Mayer, cooperative learning should begin with the process of collecting information. Therefore, upon participating in several activities that were deemed as useful to improve one's soft-skills, the analysis of this study shows that 53.6% male students and 46.4% female frequently shared information pertaining to the course. By comparing pre test and post test scores, it showed a rise in terms of percentage by 16.6%. With regard to the second item, which assessed how respondents organized and analyzed information, it demonstrates that all of them discussed in their each group before making any decision. It means 100% post-test respondents involved in group discussion, when compared to the pre-test result, which was 96%. In order to communicate ideas and exchange information as the next process of cooperative learning, it is indicated in the analysis of the third item that 1.4% respondents never used telephone to call or send short messages to their colleagues.

As a result, the analysis of the fourth item finds that almost all respondents worked with their team members and were active in group meeting. A significant increase of 20.6% female respondents who always joined group meeting could be deduced. As we have mentioned in the pre-test, the result of the fifth item is somewhat unreliable when the majority of respondents thought that they already used workbook, which was given to them after the pre-test. A similar questionable result happened in the post-test when 18 or 4.1% respondents maintained that they did not use workbook to plan. Such an answer was not anticipated since all respondents should, at least, rarely use the booklet. The use of workbook was one of the means to plan, for instance group activities, as recommended by Mayer.

Analysis of the sixth item shows that group activities greatly benefitted all respondents with 88.4% scores, while 1.7% respondents thought that they never learned more when they were in group. In respect of respondents' contribution of ideas for problem solving, mostly everybody supplied ideas and opinions in group discussion with 97.2% scores and it was a rise of 18%, when compared to the pre-test. In order to make such a contribution, 99.3% respondents engaged in surfing the internet to collect information and accomplish their each group task.

In the second part of post-test questionnaire, students were required to answer 11 questions concerning their level of cooperative work when completing their group tasks. The data shows that 100% respondents involve and participate in a group discussion, but with various frequencies. The ability to listen to and respect the ideas of others among the respondents within their groups is seemingly different between male and female respondents. Males are better listeners compared to females when the data shows the former always listen and respect others' ideas, which represent 47.4% scores. However, females show higher cooperation in sharing the load of work with 88.5% scores. Regarding the tendency to value the contributions of other group members, the percentage of females is 10% higher than males with 76.9% to 66%. In terms of sharing information with others and taking into account the information of others, 89% respondents did shared.

Concerning the constructive manner and having good ideas, majority of respondents did with only 0.7% difference between male and female respondents. As far as resolving conflict positively is concerned, the data produce quite a balanced result with a slightly difference between male and female respondents. For males, 96.4% while for females, 95.9% scored that they resolve conflict in positive manner. Female respondents seem to be more cooperative to contribute in making each group member do his work compared to male respondents with 1.7% difference. Within groups, most of the male respondents are more critical and observant than female respondents in helping group to find errors or mistakes with 5.09% degree of difference. The result of having made positive contributions to the group is almost at par between male and female respondents with only 1% difference at average. For the last item, female respondents are happier about the group success as compared to their male colleagues with 7% degree of difference.

Cumulatively, about 80.6% respondents agreed by completing their group task, they are more realizing their role in group as to increase their level of soft skills. There are about 52.4% respondents perceived as very good in realization of their role in group as compared to only 1.1% respondent believe that they are poor. In term of gender, about 66.3% male students realize their role in group; while 71.7% female students believe that their role in group has been very good and excellent. In term of contribution towards the group's success, there are about 53.3% students rated themselves at very good scale, and about

19.8% scaled at excellent. There are about 74.5% students believed that cooperative learning approach are more effective and better as compared to individual work . About 50.8% female students believe that doing task together is more attractive than doing task alone. In question whether cooperative learning approach did help student to understand better the subject , there are about 87% student agreed that this kind of design instruction are far more better than classical approach in helping them understand better their subject. However, all respondents agreed that they learnt things of real value significantly as 36.8% student rated that they learnt things in excellent, while only 11.6% student respond that they learnt things in good.

By using inferential statistical analysis, this study has succeeded to achieve its objectives and to provide clear answers for the research questions as follows:

To what extent student implementing cooperative learning approach in finishing their task?

Taking into account that the mean score was at 3.91, this study shows that students experience in implementing cooperative learning at satisfactory level. It can be understood, in which item no 11 (happy of the group success) scored mean at 4.45, the highest score among 11 items being analyzed in features of cooperative learning. While item no 6 (I am constructive) scored the lowest mean at 3.42, in which indicates that student are rarely comes with a good ideas.

How the students did perceive themselves in doing such task?

All 439 students evaluated themselves at very positive with mean score 4.056. They rated that this way of learning taught them real value in learning as appose to traditional way of learning with the highest score in mean in 4.25. However, they are also quite unrealized their roles and function in their group with score in mean 3.90. This is understandable as the student, perhaps did not exposed with such way of learning. Therefore, a continuous exposure to such way of learning is vital in engaging students with new learning environment.

To what extent student soft skill improved before and after cooperative learning approach is introduced?

Table 1 shows in details on improvement of student soft skills after cooperative learning approach had been used for duration of 8 weeks in semester 2, 2009/2010. The level of student soft skills before cooperative learning approach was used ranges from mean of 2.1545 to 4.025. Moreover, the mean score after cooperative learning approach was introduced ranges from 3.2090 to 4.3343. Generally, the level of student soft skills was improves statistically after cooperative learning approach was introduced and used in learning process of abovementioned students.

The hypothesized of H1: There is statistically significant improvement in soft skill of student after implementing cooperative learning approach.

By using paired t-test, it is statistically prove that using cooperative learning approach somehow or rather improved student's soft skills significantly.

Conclusion

From the study, it is proven that cooperative learning approach will benefit student in equipping themselves with right soft skills in meeting the demand of industries. It is understandable and agreeable that industries are rapidly changed from manufacturing-centered industries into service-centered portfolio. These changes will definitely looks for presentable and human-touched graduates that complement these needs. Findings also suggest that it is the time for universities to change its teaching and learning approach into more student-centered learning, where group work, group empowerment, mutual trust, information sharing, decision making, idea contribution and technological-embedded tasks are inculcated in this approach. This finding also suggest that, by implementing cooperative learning approach, student learnt more real values and helping student to understand the subject better. It also suggests that lecturer are now becoming towards more coach and facilitator roles rather than 'judges' in classroom. Cooperative learning approach also proves that it requires creativity from the lecturer and also from student in knowledge transfer process. It does not only improve student academic achievement, but inculcates and improves the soft skills of the students.

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S.No.	Key Competencies	Pre Test Mean	Post Test Mean	t	Significance α=0.05
1.	Sharing information with colleague	3.2704	3.7840	-6.400	0.003
2.	Discuss with group before making decision	3.5580	4.2361	-8.206	0.002
3.	Call/send SMS to colleague concerning subject	2.8636	3.4068	-5.092	0.000
4.	Participate in group meeting	3.1590	4.1931	-10.881	0.000
5.	Use group workbook to plan	2.1545	3.2090	-10.553	0.002
6.	Group activities benefits group and oneself	4.025	4.3343	-4.435	0.001
7.	Learn more when in group	3.7545	4.1340	-4.941	0.001
8.	Contribute ideas in problem solving process in group	3.2295	4.0136	-10.522	0.003

Table 1: Key Competencies