THE EFFECTIVENESS OF MASTERY LEARNING STRATEGY TOWARDS STUDENTS' ACHIEVEMENT AND COMPETENCY DEVELOPMENT IN PRINCIPLES OF ACCOUNTING COURSE

Rohaila Yusof[1], Norlia Mat Norwani[2] & Heilman Zulkifi[3]

[1]Faculty of Management and Economics Universiti Pendidikan Sultan Idris, Tg Malim, Malaysia

rohaila@fpe.upsi.edu.my

[2]Faculty of Management and Economics Universiti Pendidikan Sultan Idris, Tg Malim, Malaysia

norlia@fpe.upsi.edu.my

[3]Ministry of Education

Abstract

This study is experimental in nature, conducted to investigate the effectiveness of The Mastery Learning Strategy towards students' academic performance, achievement and competency development. The main objective of this study is to compare the effectiveness of Mastery Learning Strategy against the traditional learning strategy. The effect of these strategies on students' achievement is measured through their score marks on a test set and their development in competencies such as problem solving, communication, leadership and team work. The study is quasi experimental involving a total number of 68 students. The duration of the study was eight weeks. The data collected were in the form of responses through questionnaires and performance test. Data were analyzed using t-test and ANCOVA The results of the study shows that the students' academic performance and competency achievement of mastery learning strategy group is significantly higher compared to that of the traditional learning strategy group. Over all, most of the students in the mastery learning strategy group have a positive perception towards the implementation of the mastery learning strategy. The implications of the study suggests that mastery learning strategy should be used as one of the instructional strategies in accounting education in order to increase students' academic performance and competency development.

Keywords: Mastery learning, experimental study, principles of accounting

Introduction

Education in Malaysia is a continous learning process that aims at developing a well balanced and harmonious human capital in all aspects of life, namely intellectual, spiritual, emotional and physical. Malaysia aspires to produce a generaticn that is knowledgeable, competent and skillful to prepare the manpower needs of the nation in line with the nation's effort to drive ecoromic growth through modernization and diversification. Efficiency and effectiveness in management is very much needed to improve our prcductivity and become more competitive globally. Hence, the service sector must be prepared with skilled workforce in administration and maragement of resources especially in the finance discipline. Principles of Accouning is an extension of the living skills component, namely business record keeping at lower sec level. The content of this accounting subject is an extersion of record keeping component which focuses on the process of recording business transactions (Ismail, Faridah & Azmi, 2002). Accounting education is one of the components in commerce education. In a wider

scope, commerce education is part of vocational and general ecducation (Daughtery & Ristau, 1991; Halimah, 1992, Zaidatol Akmaliah & Habibah, 1990). Learning and teaching is a significant proses in education to gain knowledge, acquire skills and develop personality which are all altributes of good human capital. Vocational education such as accounting is developed to 29students for work skills. Students who have accounting skills can work out of bookkeeping, vocational education, costing, taxation, investment and management areas.

Literature Review

Bloom (1968) provides an optimistic view regarding students' ability in learning. Bloom suggested that although students vary widely in their learning rates and modalities, if teacher could provide the necessary time and appropriate learning conditions, nearly all students could reach high level of achievement (Guskey, 2010). Based on this belief, Bloom proposed a set of learning strategy called Learning for Mastery. This learning model is further developed by his students, Block and Anderson (1971). Bloom's work is a continuity of Caroll's (1963), which suggest that students should be assessed from time to time aster they have completed a lesson to identify their ability in achieving the set objectives. Caroll introduces introduce a model which emphasize on reference criteria. According to reference criteria, a student's performance is compared against the set criteria. This model is the opposite of norm criteria for achievement of the others. A Criterion-Referenced Test is a minimum standard measurement of students' mastery level of a lesson. Written test is a good example for this assessment. Students are considered failed if they don't achieve the set criterion level.

The main components of Bloom's Mastery Learning (1968; 1974) and Block (1971; 1972) are: i. the learning objective is a statement which indicates what students should be able to achieve at the end of the lesson; ii formative assessment as opposed to summative assessment is what really differentiates between mastery learning and traditional learning. Formative assessment is done at the end of each small unit to measure students achievement; iii. Remedial procedure is planned to overcome students weaknesses; iv. additional or alternative materials are provided to help students master the criteria set. Past research, indicate that majority students are able to achieve mastery in subjects when the mastery learning strategy is employed. The Curriculum Management Centre of Malaysia favors this strategy because it is systematic, easily applicable and meets the needs of most students especially when the subject is complicated and involves many interrelated concepts.

The approach is adopted in teaching and learning of accounting today is very much teacher centered and equipped with individual drillings to make sure the students can do the exercises given to mark the completion of certain part of the syllabus. Unfortunately not all students are able to follow this teaching strategy. This can be seen through their mediocre performance in Principle of Accounting in the public exam, the Malaysian Certificate of Education. Table 1 show achievement of students in Principle of Accounting in Malaysian Certificate of Examination in the State of Negeri Sembilan vs students' achievement in the same subject at National level. The tables reflect at both levels there are more than 20% of failures, with the state of Negeri Sembilan has higher failure rate than the national level. The failure rate in Negeri Sembilan is at the average of 28% for the past three years as compared to 20% at national level. There are 14 states in Malaysia; Negeri Sembilan is the state where the samples were selected for this study. On the opposite of the continuum, there are roughly the same percentages of students whith score excellently at national level, but lower percentage of students in the excellent category at Negeri Sembilan State Level. There

various contributing factors to this result, as shown by few studies in this subject particularly. Studies done previously showed that learning and teaching strategies are significant contributors (Rohaila 2006, Suhaida 2002), curriculum overview (Che Lai 1993), students 'negative perception towards accounting subjects (Norasmah et al. 1999)) and teachers' perception on the difficulty of the subject (Zaidatol Akmaliah et al. 1990) Accounting subject is also seen as related to students' Mathematical ability (Che Lai 1993).

Malaysia is emphasizing on the entrepreneurship in her 10th Malaysia Plan, therefore accounting skills is significant for aspiring entrepreneurs. There are many incidents of business failure caused by weakness in financial management. Principles of Accounting is an elective subject introduce at supper secondary level to cater to the national national needs of skilled labor and professionals in the area of financial management. Principles of Accounting is an elective subject chosen by students according to their interest, talent and capability. This subject is aimed at preparing the students for professional accounting courses at tertiary level and can be used if the students decide to work after high school. Introduction of elective subjects in Malaysian High School Curriculum is stream students according to their interest before their tertiary education

Therefore, a study is carried out to investigate a learning strategy that can be applied effectively in accounting principles classes. In this study, the learning strategy to be studied is the mastery learning strategy and its impact on students' achievement and competency in form four accounting principles subject. Competencies that will be studied in this research are problem solving skills, communicative skills, team work skills and leadership skills. Student achievement in Malaysia Certificate of Examination, a major public exam is an indicator of the inadequacy of learning and teaching methods applied in school as shown in Table 1 and 2.

Table 1: Student Achievement in Principles of Accounting in Malaysian Certificate of Examination for the State of Negeri Sembilan, Malaysia

Year		Excellent		Good				Pass		Fail	Total no. of Candidate
		1A	2A	3B	4B	5C	6C	7D	8E	9G	4593
2006	n	876	210	234	281	301	368	512	514	1297	
	%	19.1	4.6	5.1	6.1	6.6	8	11.1	11.2	28.2	
2007	n	944	241	273	319	373	365	510	583	1407	5015
	%	18.8	4.8	5.4	6.4	7.4	7.3	10.2	11.6	28.1	
2008	n	736	262	264	300	404	418	587	515	1371	4857
	%	15.2	5.4	5.4	6.2	8.3	8.6	12.1	10.6	28.2	

Table 2: Student Achievement in Principles of Accounting in the Malaysian Certificate of Examination at National Level.

Year		Excellent		Good				Pass		Fail	Total no. of Candidate
		1A	2A	3B	4B	5C	6C	7D	8E	9G	4593
2006	n	17023	5135	5436	6044	6485	6973	8987	9156	17605	82844
	%	20.5	6.2	6.6	7.3	7.8	8.4	10.8	11.1	21.3	
2007	n	17738	5680	6026	7368	7754	7047	9096	10013	18112	88834
	%	20	6.4	6.8	8.3	8.7	7.9	10.2	11.3	20.4	
2008	n	14896	5451	6134	6770	8670	8177	10261	8718	18278	87355
	%	17.1	6.2	7.0	7.7	9.9	9.4	11.7	10.0	20.9	

Methodology

This study aims to test the effectiveness of mastery learning strategy on students' achievement and competency development in form four Principle of Accounting subject. Achievement in accounting is represented by scores in accounting test which measure the technical ability of students in accounting. Competency developments that were studied are the skills in problem solving, communication, leadership and team work. This research is quasi-experimental (Campbell & Stanley, 1963). The selection of subjects into experimental group and control group does not use random sampling technique to avoid disturbance to teaching and leaming processes of the present classes. Experimental group and control groups are the existing subjects in those classes. A part of these students were grouped as the mastery learning group (experimental) and other students were classified as non-mastery learing that was traditional (control).

This study involved 68 students from two different schools. A total number of 33 students were chosen to be named as experimental group while the rest with 35 students were put as the control groups. Alll these students are taking accounting principle subject that was the elective subject. According to Mohd. Majid Konting (2004), the use of sample size needs to exceed 30 units because assumotion for normal distribution usually is achieved when sample size exceeds 30 units. Fraenkel and Wallen (2000) also propose at least 30 samples in any research group. Dependent variables for the study are achievement and student competency development. Competency development that will be studied is from the aspect of problem solving skills, communicative skills, team work skills and leadership skills while independent variable are mastery learning strategy and gender factor and PMR mathematics examination.

Dependent variable for this study is achievement and competency development. The competencies studied in this study are problem solving skills, communication, leadership and team work skills. These competencies were selected based on previous studies (Freidlan, 1995; Rainsbury, et al., 2002; Usoff & Feldmann, 1998) which revealed the importance of these competencies in accounting profession; while the independent variable was the mastery learning strategy. The independent variables are considered as variables that cause change and dependent variable on the other hand is its impact. Dependent variable is the variable when the effect of treatment is observed. Patterns or changes in dependent variables depend on the treatment or other variables change. Independent variables are the variables that their impact is studied. Treatment of independent variable levied at dependent variables (Alias Baba, 1992).

A pilot was carried out at the Sekolah Menengah Kebangsaan Dato 'Undang Musa Al-Haj. Questionnaires and test questions were distributed to 33 respondents. The intention was to test instruments for their validity. Based on the feedbacks from the respondents, it was conclude that the items were valid and ready to be administered to the actual respondents. The Alpha Cronbach standard value is 0.92. Therefore the items in the questionnaire were accepted to be used in this study. All statistical procedures in general analysis differences. Differences can be calculated by comparison of individual score and the overall mean of scores. The focus of the study is to determine the contribution of mastery learning strategies towards students' cognitive achievement and competency development for the two tested topics, Closing of Accounts and Financial Statements Reconciliation in the Accounting Principles subject. Students' achievement was measured using the topics tested. The significant level for all hypothesis testing for main effects is fixed at alpha (a) = 0.05. data collected in this study is processed using Statistical Package for Social Sciences (SPSS) version 17.00. The post-test score was analyzed using covariance analysis (ANCOVA) from the General Linear Model (GLM) to obtain the mean and standard deviation between the treatment and the control group. Data analysis involved t-test at .05 significant level.

Research Questions

i. Is there a significant difference in the pre-test score of competency development between groups of mastery learning strategy and traditional learning strategy?
ii. Is there a significant difference in the post-competency post-test score post competency development between groups of mastery learning strategy and traditional learning strategy?
iii. Is there a significant difference in the pre-test score of the technical test between groups of mastery learning strategy and traditional leaning strategies?
iv. Is there a significant difference post score of technical test between groups of mastery learning strategy and traditional learning strategy?
v. Is there a significant difference between the pre-test and post-test scores of competency development in the mastery learning strategy?
vi. Is there a significant difference between the pre-test and post-test scores of accounting technical skill development in the mastery learning strategy?

Conceptual Framework

The conceptual framework refers to a set of concepts which is interrelated to each other with regard to a studied phenomenon (Sabitha Marican, 2005). A quantitative research use conceptual framework as a guide to direct data collection and interpretation of carried out activities. Therefore, the conceptual framework was constructed as to facilitate the conduct of the study. The conceptual framework of this study was adapted from a study by Suhaida Abdul Kadir (2002).

The application of masteryteaching are based on learning model suggested by Benjamin Bloom (1968) and modified by Block (1974). Mastery teaching approach, originally roots on student teaching and it takes place in groups. However, there is also mastery learning strategy that is individual or of self independent learning in nature. In mastery learning approaches, lessons has to be divided into smaller units. Every unit has its own learning objectives. Mastery refers to the achievement of learning objectives with scores above 80% in the test. A teacher has to brief students on learning objectives and the criteria

needed to achieve it. Students who failed to achieve the targeted criterias and objectives will have to repeat the topic and re-sit the test. Students' background, such as gender and Mathematics ability are two of the many variables that are expected to have effect on the outcomes of mastery learning strategy. The intervention in this research was done according to the steps below:

- Setting the learning objectives of a unit
- Teach using any suitable method / methods to help students understand
- Administer diagnostic test to asses students development in lessons
- Remedial and re-diagnosis if necessary to help students master the unit before moving to the next unit.
- Administer post-test at the end of the course to assess and grade the students.

This study was carried out to identify the relationship between variables based on experimental design. The relationship between intervention (Mastery Learning Strategy) and the outcomes (Technical skills and competency development). The competency development refers to the development of four generic skills such as problem solving, communication, leadership and teamwork,
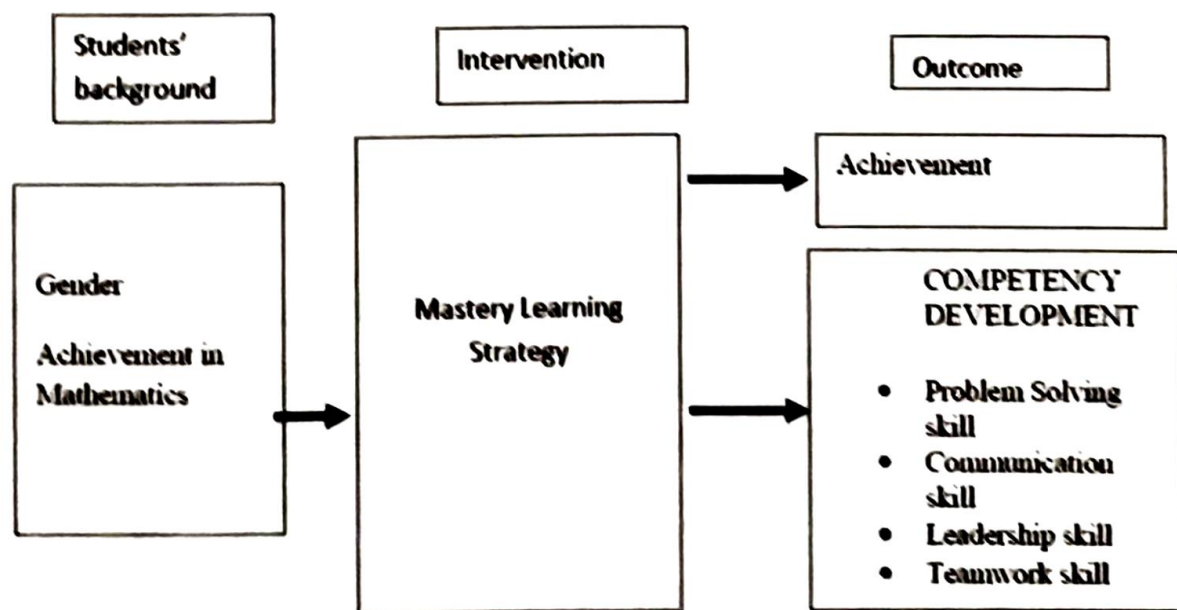

Figure 1: Conceptual Framework

Results

Profile of Respondents

Table 3: Respondents distribution according to gender classified under the experiment (Mastery Learning) group and the Traditional Learning group

Gender	Mastery Learning		Traditional Learning	
	n	Percentage	n	Percentage
Male	9	27.3	20	57.1
Female	24	72.7	15	42.9
Total	33	100	35	100

Table 4: Respondents distribution according to race classified under the experiment (Mastery Learning) group and the Traditional Learning group

Race	Mastery Learning		Traditional Learning	
	n	Percentage	n	Percentage
Malay	32	97	26	74.3
Chinese	0	0	8	22.9
Indian	1	3	1	2.9
Others	0	0	0	0
Total	33	100	35	100

Research Findings

Research question 1

Is there a significant difference in the pretest score in competency level between the experiment and control group?

Table 5: Analysis of pretest score difference in problem solving skill between the experiment and control group.

Group	N	Mean	Standard deviation	t	dk	Significant level
Experiment	33	22.42	2.68	.033	66	.974*
Control	35	24.40	3.27			

P>0.05

The test showed that the t value is t (66) = .033, p = .9974. The p value is p > 0.05 which means that there is no significant difference problem solving skill of students in the two the experiment and control group before the intervention of mastery learning strategy.

Table 6: Analysis of pre-test score difference in achievement of pretest score in communication skill between the experiment and control group.

Group	N	Mean	Standard deviation	t	dk	Significant level
Experiment	33	24.27	4.13	1.138	66	.259*
Control	35	23.20	3.64			

P>0.05

The test showed that the t value is t (66) = 1.138, p = .259. The p value is p > 0.05 which means that there is no significant difference in communication skill of the students in the two experiments and control group before the intervention of mastery learning strategy.

Table 7: Analysis of pre-test score difference in achievement of pretest score in leadership skill between the experiment and control group.

Group	N	Mean	Standard deviation	t	dk	Significant level
Experiment	33	20.48	3.76	1.1077	66	.285*
Control	35	19.54	3.45			

P>0.05

The test showed that the t value is t (66) = 1.107, p = .285. The p value is p > 0.05 which means that there is no significant difference in leadership skill of the students in the two experiments and control group before the intervention of mastery learning strategy.

Table 8: Analysis of pre-test score difference in achievement of pretest score in teamwork skill between the experiment and control group.

Group	N	Mean	Standard deviation	t	dk	Significant level
Experiment	33	19.91	3.54	.462	66	.645*
Control	35	19.49	3.98			

P>0.05

The test showed that the t value is t (66) = .462, p = .645. The p value is p > 0.05 which means that there is no significant difference in teamwork skill of the students in the two experiments and control group before the intervention of mastery learning strategy.

Research question 2

Is there a significant difference in the score of post-test in competency development between the mastery learning group and the traditional group?

Table 9: Analysis of pre-test score difference in problem solving skill between the experiment and control group

Group	N	Mean	Standard deviation	t	dk	Significant level
Experiment	33	26.97	2.29	4.42	66	.000*
Control	35	23.66	3.68			

P>0.05

The test showed that the t value is t (66) = 4.42, p = 0.00. The p value is p < 0.05 which means that there is a significant difference in problem solving skill of the students in the two groups with the experiments group obtaining a higher post-test score.

Table 10: Analysis of pre-test score difference in communication skill between the experiment and control group

Group	N	Mean	Standard deviation	t	dk	Significant level
Experiment	33	29.27	3.15	3.95	66	.000*
Control	35	26.43	2.77			

P>0.05

The test showed that the t value is t (66) = 3.95, p = 0.00. The p value is p < 0.05 which means that there is a significant difference in communication skill of the students in the two groups with the experiments group obtaining a higher post-test score.

Table 11: Analysis of pre-test score difference in leadership skill between the experiment and control group

Group	N	Mean	Standard deviation	t	dk	Significant level
Experiment	33	24.39	2.05	2.68	66	.009*
Control	35	22.97	2.32			

P>0.05

The test showed that the t value is t (66) = 2.68, p = 0.09. The p value is p < 0.05 which means that there is a significant difference in leadership skill of the students in the two groups with the experiments group obtaining a higher post-test score.

Table 12: Analysis of score difference in leadership skill between the experiment and control group

Group	N	Mean	Standard deviation	t	dk	Significant level
Experiment	33	24.82	2.32	2.71	66	.009*
Control	35	22.23	2.51			

P>0.05

The test showed that the t value is t (66) = 3.95, p = 0.00. The p value is p > 0.05 which means that there is a significant difference in teamwork skill of the students in the two groups with the experiments group obtaining a higher post-test score.

Research question 3

Is there a significant difference in the pre-test score of the technical test between groups of mastery learning strategy and traditional leaning strategies?

Table 13: Analysis of pre-test score difference in technical test between the experiment and control group

Group	N	Mean	Standard deviation	t	dk	Significant level
Experiment	33	10.73	3.83	-.154	66	.878*
Control	35	10.86	3.10			

P>0.05

The test showed that the t value is t (66) =-.154, p=.878. The p value is p > 0.05 which means that there is no significant difference in technical skill of the students in the experiment and control group.

Research Question 4

Is there a significant difference post-test score of technical test between groups of mastery learning strategy and traditional learning strategy?

Table 10: Analysis of post-test score difference in technical test between the experiment and the control group.

Group	N	Mean	Standard deviation	t	dk	Significant level
Experiment	33	22.97	3.32	2.31	66	.024*
Control	35	21.26	2.78			

P>0.05

The test showed that the t value is t (66) =.231 p=.024 p value is p < 0.05 which means that there is a significant difference in technical skill of the students in the experiment and control group in the post-test score.

Research Question 5

Is there a significant difference between the pre-test and post-test scores of competency development in the mastery learning strategy group?

Table 11: Analysis of difference between the pre-test and post-test scores of competency development in the mastery learning strategy group.

Group	N	Mean	Standard deviation	t	dk	Significant level
Experiment	33	10.73	3.83	-25.78	32	.000*
Control	35	22.97	3.32			

P>0.05

The test showed that the t value is t (32) =-25.78, p=.000 p value is p < 0.05 which means that there is a significant difference in technical skill of the students in the pre-test and post-test in the treatment group.

Research Question 5

Is there a significant difference between the pre-test and post-test scores of competency development in the mastery learning strategy?

Table 12 shows the result of t-test on the pre and posttest score of students in experimental group in the development of problem solving skill. The table shows the min score of pre and posttest of problem solving skill which is 22.42 and 26.97 respectively. The standard deviation for pre and posttest is 2.68 and 2.30 respectively. The analysis shows the value of t (34) = -2.07, p = .000, with p< 0.05. Therefore there is a significant difference in pre and post-test result of the problem solving skill in the experiment group.

Table 12: Analysis of difference between the pre-test and post-test scores of problem solving skill in the experimental learning group.

Group	N	Mean	Standard deviation	t	dk	Significant level
Experiment	33	22.42	2.68	-2.07	30	.000
Control		26.97	2.30			

P>0.05

Table 13 shows the result of t-test on the pre and posttest score of students in experimental group in the development of communication skill. The table shows the min score of pre and posttest of problem solving skill which is 24.27 and 29.27 respectively. The standard deviation for pre and posttest is 4.13 and 3.15 respectively. The analysis shows the value of t (32) = -7.59, p =0.00, with p< 0.05. Therefore there is a significant difference in pre and posttest result of communication skill in the experiment group.

Table 13: Analysis of difference between the pre-test and post-test scores of communication skill in the experimental learning group.

Group	N	Mean	Standard deviation	t	dk	Significant level
Experiment	33	24.27	4.13	-7.59	32	.000
Control		29.27	3.15			

P>0.05

Table 14 shows the result of t-test on the pre and posttest score of students in experimental group in the development of leadership skill. The table shows the min score of pre and posttest of problem solving skill which is 20.48 and 24.39 respectively. The standard deviation for pre and posttest is 3.76 and 2.05 respectively. The analysis shows the value of t (32) = -5.93, p =0.00, with p< 0.05. Therefore there is a significant difference in pre and posttest result of leadership skill in the experiment group.

Table 14: Analysis of difference between the pre-test and post-test scores of leadership skill in the experimental learning group.

Group	N	Mean	Standard deviation	t	dk	Significant level
Experiment	33	20.48	3.76	-5.93	32	.000
Control		24.39	2.05			

Table 15 shows the result of t-test on the pre and posttest score of students in experimental group in the development of teamwork skill. The table shows the min score of pre and posttest of problem solving skill which is 19.91 and 24.82 respectively. The standard deviation for pre and posttest is 3.54 and 2.32 respectively. The analysis shows the value of t (32) = -8.177, p = 0.00, with p< 0.05. Therefore there is a significant difference in pre and posttest result of leadership skill in the experiment group.

Table 15: Analysis of difference between the pre-test and post-test scores of teamwork skill in the experimental learning group.

Group	N	Mean	Standard deviation	t	dk	Significant level
Experiment	33	19.91	3.54	-8.177	32	.000
Control		24.82	2.32			

Research Question 6

Is there a significant difference between the pre-test and post-test scores of accounting technical skill development in the mastery learning strategy?

Table 16 shows the result of t-test on the pre and posttest score of students in experimental group in the development of teamwork skill. The table shows the min score of pre and posttest of problem solving skill which is 10.73 and 22.97 respectively. The standard deviation for pre and posttest is 3.83 and respectively 3.32. The analysis shows the value of $t(32) = -25.78$, $p = 0.00$, with $p < 0.05$. Therefore there is a significant difference in pre and posttest result of achievement in technical skill in the experiment group.

Table 16: Analysis of difference between the pre-test and post-test scores of achievement of technical skill in the experimental learning group.

Group	N	Mean	Standard deviation	t	dk	Significant level
Pre-test	33	10.73	3.83	-25.78	32	.000
Post-test		22.97	3.32			

Discussion and Implications

Student competency development is measured using pre and post-test to evaluate the effectiveness of the learning strategy implemented. For problem solving competency, it is found that there is a significant mean difference before and after the learning strategy is implemented. It is an indicator that the mastery learning strategy has positive impact on the problem solving ability of students. It can be concluded that the competency development has improved based on the increase in score in the experiment group.

Communication skills is one of the competency area developed through mastery learning strategy, therefore students competency level is measured through pre and post-test. The results showed a significant increase in students' competency development through the intervention in the experiment group. In business, according to Wilson (1988), the basic skill needed of an individual before starting a job is communication skills. Leadership is one of the competencies expected to be developed through the learning strategy employed. Therefore leadership skill is measured before and after the learning strategy is implemented. There is a significant difference in the leadership skill developed in the experiment class reflected by the increase in the score. This finding is supported by the work of Pool (2001) which showed learning outcomes by portfolio learning strategy improved students' leadership skills in business management course.

Teamwork is one of the important skills developed in the intervention and measured using pre and post-test. The intervention has been successful and has positive impact measured by the increase in post-test score in the teamwork skill. Cognitive level of students is expected to improve significantly through mastery learning strategy. This hypothesis was tested and it is proven that students' cognitive development was significantly different between the two groups, with the experiment group fared much better in the post-test. The intervention was able to improve students' cognitive level effectively. In conclusion, the mastery learning strategy used as intervention in the experiment class was effective in improving students' cognitive skills and other important skills such as problem solving ability, communication, teamwork and leadership skills which can be summed as students' competency.

Conclusion

Based on the findings, it can be concluded that the mastery learning strategy is effective in improving students' achievement in Principles of Accounting. The elements of mastery learning such as reiterating the objective and significance of each unit before the beginning of

the lesson followed by diagnostic test and remedial effort was helpful in helping students to master the concepts of accounting principles covered in topic of financial statement. Based on the past research and researcher observation within the duration of the study, the expectation on mastery learning strategy is met, where students were able to explore and understand the concepts in Principles of Accounting in a more meaningful way. All categories of students, labelled as high, medium and low achievers relatively in the pre-test in this study are found to have benefited from the mastery learning.

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