



Learning Strategies and Academic Achievement in Mathematics among Grade two Pupils of Lagonglong Central School

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Received 20th March 2018, Accepted 3rd May 2018

Abstract

The main thrust of this study is to determine the effect of Learning Strategies and Academic Achievement between Traditional and Computer based Learning Strategies in Mathematics among Grade 2 Pupils in Lagonglong Central School, School Year 2016-2017. Specifically, this study sought to answer the following questions: 1) What is the profile of the respondents in terms of Traditional Learning Strategy and Computer Based Learning Strategy? 2) What is the level of academic achievement of respondents in Mathematics when grouped accordingly to Outstanding, Very Satisfactory, Satisfactory, Fairly Satisfactory and Did not meet expectations? 3) Is there a significant relationships between the level of performance and learning strategies of the respondents?. This study utilized the descriptive methods which is appropriate for the objectives to determine the relationship of Computer based learning strategy and traditional based learning strategy to the academic performance. The data gathered provides basis in the comparison of traditional learning strategy and computer based learning strategy in relation to the academic performance in Mathematics. The method was used in order to obtain the data concerning recent status with respect to variables of this study. Descriptive statistics was used to collect, record and tabulate the data to make it more comprehensive.

Keywords: Learning Strategies, Academic Achievement, Traditional learning.

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Introduction

Learning strategies refer to methods that students use to learn. This ranges from techniques for improved memory to better studying or test-taking strategies. For example, the method of loci is a classic memory improvement technique; it involves making associations between facts to be remembered and particular locations. In order to remember something, you simply visualize places and the associated facts (Ropthkopf 1970). Computer technology nowadays plays an important role in education since it is a tool that teachers might use to impart knowledge to the learners. Thus, catering the learners in fulfilling and achieving their goals in life through the 21st century education curriculum which is the K-12 in which everybody has a chance to make life better and best.

The teacher as a facilitator of learning finds it easy to provide necessary information through the use of computer assisted instruction to improve learners performance. Apparently, computers and its application play a significant role in modern technology which is of great help and tool of imparting knowledge in achieving one's dream and goal in the learning process. Mostly of

the things are done by computers or any gadgets that can be of great help in making every learner globally competitive. Traditional learning strategies are still used by few teachers in imparting knowledge in the absence of latest technology in the classroom. The invention of modern technology in the classroom occurred and great changes and improvements take place which is the invention of the computer making works easier and faster.

The use of Computer based learning strategy helps a lot in teaching Mathematics. The topic itself speaks that there is a need to use technology not only computers but the internet access of which is very essential in achieving the goal especially in teaching Mathematics. With the use of computer based learning strategy, it shows a big impact to the learners' output compared to traditional learning strategy. In as much as the desire in reaching goal of using computer based in learning strategy, problems arise and be taken into consideration the schools real situation. Some teachers are not literate enough to use computer as the basis of their learning strategy. The Department of Education conducts trainings, seminar/workshops to enhance the teacher proficiency in computer literacy by helping the educators enrich their capability especially in the use of computer as a learning strategy. This research tries to find out the effect of learning strategies and academic achievements between traditional and computer based

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CONCEPTUAL FRAMEWORK

The paradigm of study is guided by the theory of “learning by doing”, anchored by John Dewey. One of Dewey’s main ideas is that education and learning strategies in teaching Mathematics are social and interactive processes. He believed that students succeed in an environment where they are allowed to experience and interact with the curriculum, and all students should have the opportunity to take part in their own learning. Dewey said that an educator must take into account the unique learning strategies. Even when a standard curriculum is presented using established pedagogical methods, each student will have a different quality of experience. Thus, teaching and curriculum must be designed to improved academic achievements of pupils. The factors used to categorize the learning strategy are the Traditional and computer- based learning strategy. It can be noted that the independent variables consist of traditional method and computer-based learning strategy to determine the effects on the academic achievements of the pupils.

Based on DepEd Order No.8, s. 2015 the academic achievements of pupils in the grading scale ranges from outstanding the student at this level exceeds the core requirements in terms of knowledge, skills and understandings, and can be transfer them automatically and flexibly through authentic performance tasks, very satisfactory the student at this level has developed the fundamental knowledge and skills and core understandings, and can transfer them independently through authentic performance tasks. It is competent or skilled in doing or using something, satisfactory the student at this level has developed the fundamental knowledge and skills and core understanding and with the little guidance from the teacher and/or with some assistance from peers, can transfer these understandings

through authentic performance tasks, fairly satisfactory, the student at this level possesses the minimum knowledge and skills and core understanding, but needs help throughout the performance of authentic tasks, did not meet expectations, the student at this level struggles with his/her understanding; prerequisite and fundamental knowledge and or skills have not been acquired or developed adequately to aid understanding.

Additionally, in identifying factors that affect student academic achievement, particularly in the area of math achievement, has been a long-standing issue in educational research. Based on a wide consensus that mathematics skills are increasingly necessary for the 21st century. (Dr. Ahlam Lee,) Among the potential factors, growing interest concerns the effects of computer-based learning activities on math performance. While computer technology has been incorporated into classroom since the 1990s (Barron, Kemker, Harnes, & Kalaydjian, 2003), few large-scale studies have examined the effects of computer-based learning activities on math performance. In view to the computer-based learning activities, as a school contextual factor, this study selected principal leadership because of evidence that, to incorporate learning strategies into math curriculum, the support of school principal is essential (Means, 2010). As another school level factor, this study chose school policy on math course requirements because of its lack of research as a potential factor of academic success. Ke’s (2008a) study showed the difference between an educational computer game and traditional paper- and pencil drills in math performance of the students. on the Learning Strategy in Teaching Mathematics among Grade Two Pupils as the respondent variable. The study is guided by the research paradigm presented on figure 1.

SCHEMA OF THE STUDY

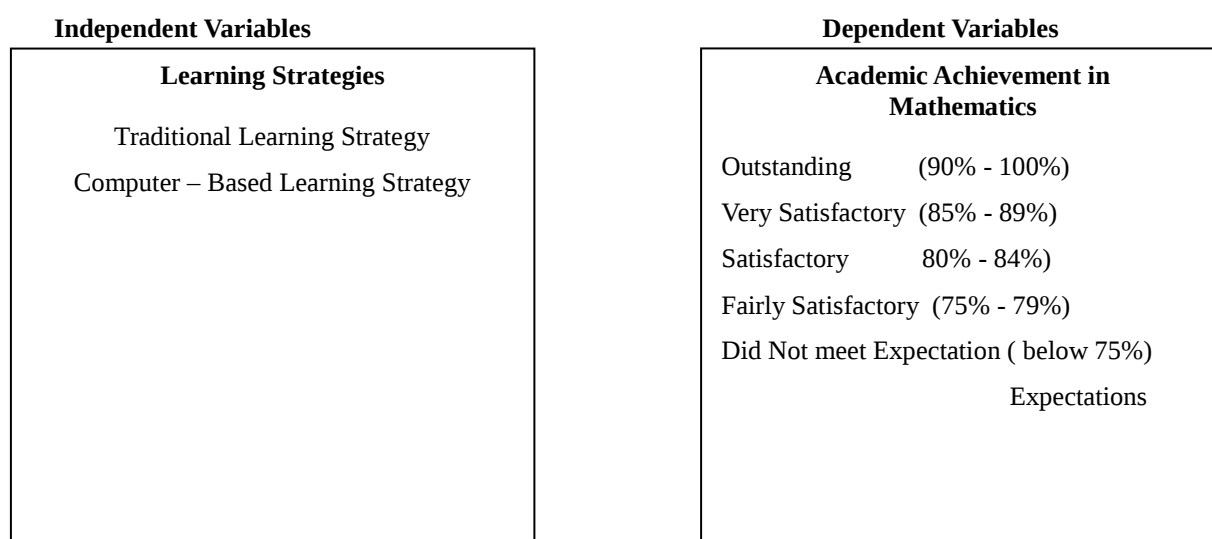


Figure 1

Schematic diagram showing the relationship between the independent and dependent variables of the study.

Statement of the Problem

The main thrust of this study is to determine the effect of Learning Strategies and Academic Achievement between Traditional and Computer based Learning Strategies in Mathematics among Grade 2 Pupils in Lagonglong Central School, School Year 2016-2017. Specifically, this study sought to answer the following questions:

1. What is the profile of the respondents in terms of learning strategies:
 - 1.1 Traditional Learning Strategy
 - 1.2 Computer Based Learning Strategy
2. What is the level of academic achievement of respondents in Mathematics when grouped accordingly to;
 - 2.1 Outstanding
 - 2.2 Very Satisfactory
 - 2.3 Satisfactory
 - 2.4 Fairly Satisfactory
 - 2.5 Did not meet expectation
3. Is there significant relationships between the level of performance and learning strategies of the respondents;
 - 3.1 Traditional Learning Strategy
 - 3.2 Computer - Based Learning Strategy

Statement of the Hypothesis

Problem 1 and 2 are hypothesis free. Problem 3 was determined at 0.05 level of significance, where hypothesis are stated in null form as follows:

Ho₁: There is no significant relationship of the respondents' academic achievement and the learning strategies of the respondents in terms of traditional learning strategy and computer-based learning strategy.

Statistical Treatment

The statistical tool used to analyze the data gathered and to answer the problems stated for this study.

1. Descriptive statistical tools such as frequency and percentage were used to describe the variables of the study. These were indicated in the findings of the problem where statistical treatment was used.

Pearson Product Moment Correlation was utilized to determine the relationship of the learning strategies to the Academic Performance of the respondents

Findings

Based on the data and statistical computation, the following are the findings of the study:

1. The data revealed that in terms of traditional learning strategy, the respondents strongly disagreed in questions 1,2,3,4, and 5 which means that traditional learning strategy is not effective in today's generation of learners considering the advent of technology in the classroom.
2. For Computer-Based Learning Strategy, the respondents strongly agreed in all the five

questions which means that learning strategy is very effective and this kind of strategy is what the learners wanted to have in the classroom to equip them with the 21st century skills.

3. In terms of academic performance for traditional learning strategy, the findings revealed that seventeen (17) or 44.74% of the respondents obtained a grade of fairly satisfactory academic performance ranges from 75-79%, one (1) or 2.63% obtained below 75% or did not meet Expectations. While, zero (0) or nobody obtained an outstanding performance out of thirty-eight (38) respondents in traditional learning strategy.
4. The academic performance of respondents in terms of computer-based learning strategy, fifteen (15) or 39.47% of the respondents obtained a grade of outstanding ranges from 90-100%, five (5) or 13.16% obtained Very Satisfactory ranges from 85-89%, ten (10) or 26.32% obtained a grade of Satisfactory ranges from 80-84%, zero or nobody of the respondents obtained did not meet expectations or failing marks which is below 75%.
5. The significant relationship between the level of performance and traditional learning strategy, the respondents revealed that traditional learning strategy (computed $r = .193$), has no significant correlation with the academic performance of pupils which means that the traditional learning strategy has no effect to the academic performance of pupils.
6. The Computer - Based Learning Strategy has a computed $r = .401$ which has a slight relationship to the academic performance of pupils. Thus, computer based learning strategy can be associated to the academic performance of pupils.

Conclusions

The following conclusions were drawn based on the findings of this study:

1. Traditional learning strategy is not effective in today's generation of learners considering the advent of technology in the classroom.
2. The use of Computer- based learning strategy helps a lot in teaching Mathematics in this study. It is found out that there is a need to use technology not only computers but the internet access of which is very essential in achieving the goal especially in teaching Mathematics.
3. Apparently, result revealed that only computer-based learning strategy directly affect the academic performance of the pupils. Computers and its application play a

significant role in modern technology which is of great help and tool of imparting knowledge.

Recommendations

The following recommendations were given based on the summary of findings and conclusions drawn from the study:

1. The teachers may integrate the use of computer-based learning strategy in the classroom for better understanding and processing of knowledge paving the way to increase academic performance of pupils and to equip them with the 21st century skills.
2. The pupils may analyze and evaluate the importance of computer-based learning strategy in the classroom to develop the higher order thinking skills in their young minds by the use of latest technology in the teaching and learning process.
3. The parents may give or extend their full support and cooperation to the education of their children especially in Mathematics which is considered as important subject in the curriculum.
4. For the future researchers to conduct a parallel study using more variables, wider scope of respondents and research locale.

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