Mind Mapping and Science Performance of Grace 5 Pupils of San Juan Elementary School, Sta. Cruz, Laguna

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The Asian Conference on Education 2018
Official Conference Proceedings

Abstract
This study aimed in determining the effect of mind mapping to the science performance of Grade 5 Pupils of San Juan Elementary School. Two strategies were executed by the researcher in order to analyze the performance of 40 pupils. For the direct teaching, the teacher delivered the topic on "Female Reproductive System" with proper procedure – from motivation to evaluation. Another strategy being executed by the teacher is by integrating mind mapping so as to evaluate the students' understanding using the same topic. Using direct teaching and multimedia presentation, pupils obtained a mean of 2.15 and sd 1.66 in a 5-item quiz. On the other hand, integration of mind mapping generated a mean of 3.56 and sd 1.38. Lower coefficient of variation was observed in the result of integrating mind mapping (0.39) than the result of direct teaching (0.77), showing that integrating mind mapping in the teaching process generated a less varied scores than direct teaching. Using t-test for independent samples, assuming equal variances, the t-computed was -4.11 while the t-critical was 1.99. These values showed that integrating mind mapping has significant effect to the Science performance of the pupils. The conclusion is supported by the p-value 0.00. Recommendations to Science teachers, school heads, district supervisors and future researchers were given at the end of the study. Promotion of mind mapping in teaching should be one of the foci of educators. The teacher-researcher reflected also on the importance of involving the learners on the process of teaching-learning.

Keywords: mind, mapping, science, performance

Introduction

Education is the process of transferring knowledge to the next generation. It is also preserving information so that the future generation can still benefit from the patience and determination of the past.

This is the reason why the Department of Education (DepEd) is continually improving the curriculum. From BEC Curriculum, to RBEC, then the Understanding by Design (UBD), and the latest which is the K to 12 Basic Education Program.

This K to 12 Basic Education program came from the concept in the international scenario. There are many countries around the world, even countries from Asia, which uses this twelve-year development program for the basic education, and the Philippines is already lagging behind this educational setting. Singapore has gone ahead of in such a way that they have already developed their high standard of education system. Many countries are importing their materials especially in Math and Science subjects. This country is topping in the list of quality education base from the internationally conducted contests and exams like the one being done by the Trends in Math and Science Studies (TIMSS).

But how should knowledge be transferred to students in such a way that the knowledge would be retained to them? Many studies have been conducted to investigate on the effectiveness of different strategies like cognitive approach, deductive approach, inductive approach, spoon-feeding approach, peer-tutoring, group activity, simulation, and many other means of instructing.

When it comes to Science subject, what would be an effective way so that students would easily grasp the concepts and connected ideas to a certain topic? This is the focus of this study.

The San Juan Elementary School started as an Annex to Bubukal Elementary School. It has been operating since 2006. The third batch of grade five has completed the course requirement from the Department of Education last school year 2016-2017. After the recognition ceremony, the Parents-Teachers Association pushed through its independency from Bubukal Elementary School and the local government granted the autonomy through the able leadership of Dr. Myra D. Collado.

There here are 40 grade five students and their Science subject is being handled by the researcher of this study. The topics in this subject follow the topics as line-up by DepEd under the K to 12 program. It includes the system of the human bodies, taking care of health, healthy foods, the ecosystem, plants and animals, our environment, and the universe.

To learn these topics, the teacher implements many strategies: experimentation, group activities, lecture method, exploratory activity, investigative projects, and mind mapping.

How is the mind mapping learning style in terms of the output in the exams and quizzes of these grade five students? Are they learning much in the same level or

degree that they learn using the lecture type method or the typical visual aid method? These are the questions that the researcher has in mind in the beginning of the study.

Conclusion

The two teaching processes being compared are classroom sessions without the integration of mind mapping learning style and classroom sessions with the integration of mind mapping learning style. Without the integration of peer mind mapping style, the learners got a mean of 2.15 and an SD of 1.66 out of a 5-item word problem quiz on the topic of "Female Reproductive System". On the other hand, with the integration of mind mapping learning style, the learners' mean is 3.56 and SD is 1.38. This shows that learners did better in the teaching-learning process when mind mapping learning style was integrated to learn concepts and skill in Science. Using t-test for independent samples, the T-critical is 1.99 while the T-computed is 4.11. Since the absolute value of the T-computed is greater than the T-critical, it can be said that there is a significant difference between the two means. The P-value 0.00 which is lower than the alpha 0.05 supports the claim that there is a significant difference between the scores in quiz without the integration of mind mapping learning style and with the integration of mind mapping learning style, thus, the implication that the teaching process affects the Science performance of grade 5 learners. When integration of mind mapping learning style is used alongside teaching and learning, higher Science performance is exhibited by the learners compare with the teaching process without the integration of mind mapping learning style. These findings reveal that mind mapping is of great value to the teaching of science. This is in agreement with Toi (2009) shows that Mind Mapping can help children recall words more effectively than using lists, with improvements in memory of up to 32%.

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