Utilization of Graphic Organizers for Familiarization and Retention of Public Administration Concepts

Nova E. Arquillano[1,] Menard P. Nava[2]
Pangasinan State University, Philippines[1,2]

Abstract -The academic performance of Public Administration students plays a major role in evaluating the acquired conceptual foundation of the students and understanding how this could be utilized in acquiring more complex concepts. This is true with the knowledge behind the PA 107-Administrative Law course for the third year students. It is a course about the nature, organization and legal basis of administrative agencies in the Philippines. In this study, the subjects perform below average before the utilization of graphic organizers as a learning tool. This is based on the 20-item pretest. Two weeks after the special instruction, a posttest was administered to the same students. A significant number of students perform in the average level. It is recommended that graphic organizers should be part of the paper-and-pen activity for the Public Administration students to improve their familiarization and retention of related concepts.

Keywords: *graphic organizer, Public Administration students, familiarization and retention, Administrative Law*

INTRODUCTION

Public Administration is a degree program offered in Pangasinan State University particularly in the campuses of Lingayen and Bayambang. Public Administration may refer not only to those activities involved in carrying out or in implementing the policies and programs of the government but also to the process and contents of those policies and programs. From an even broader perspective, it refers to cooperative human action whether within the public bureaucracy, the private sector or in nongovernmental organizations aimed at delivering services to people (Bautista, 2003).

The Public Administration programs has 57 units of major subjects, 12 units as core, 39 units as general education and others are being shared by electives and practicum. The researchers are handing major subjects of the program. Some students perform satisfactorily during oral and written test while others do not. The researchers came up with this study in order to identify the low performers of the class and see if there would be changes if they will be given an activity related to a certain topic.

According to Cuban (2001) people generally remember 10% of what they read, 20% of what they hear, 30% of what they see, 50% of what they hear and see, 70% of what they say and 90% of what they say and do. For this, the researchers wanted to provide paper-and-pen activities just like graphic organizers. Graphic organizers are learning tool that uses visual symbols to express knowledge and concepts through relationships between them. Examples are I-chart, Frayer model, and Venn diagram. Other examples are categories, descriptive pattern organizer, time sequence pattern organizer, episode pattern organizer, concept pattern organizer, and process/cause-effect pattern.

I-charts can be used as a scaffold for whole- or small-group learning and an organizing tool for the research process. With the integration of I-chart to modern technology, it becomes effective in active engagement, participation in groups, frequency interaction and feedback, and connection to real-world experts (Assaf, et al, 2011). The use of inquiry-based instruction can be traced back to when Dewey encouraged teachers and students to participate in an authentic inquiry by exploring genuine questions and searching for answers to those questions (Assaf et al, 2011).

With the use of i-chart, research shows a significant difference in the reading comprehension of second-year students (Pariska, 2013) and pupils became flexible

and find alternate routes to solve their problems (Assaf et al, 2011).

Vocabulary instruction proves opportunities for word learning by encouraging wide reading, exposing the student to high-quality oral language, promoting word consciousness, and provides explicit instruction of specific words. Studies revealed that the extent of students' oral language knowledge is highly correlated with later reading proficiency, students learn better when they process words more actively and deeply, the very students who are in the greatest need of vocabulary acquisition tend to be the same students who read poorly and fail to engage in the amount of reading, the fourth grade slump is caused at least in part by the failure of schools to promote oral language development while children are still working on the mechanics of reading (Hanson and Padua, 2011), and the pupils' academic performance showed that using science vocabulary instruction improved sophomore students' performance on summative vocabulary assessment (Stockton, 2016).

On the other hand, the Frayer model is a graphical organizer used for word analysis and vocabulary building. This four-square model prompts students to think about and describe the meaning of a word or concept by defining the term, describing its essential characteristics, providing examples of the idea, and offering non-examples of an idea. The Frayer model encourages students to use critical thinking to identify and understand the vocabulary that is not familiar to them. It is effective in attracting preparatory stage pupils' attention, activating pupils' prior knowledge and experiences, activating involving pupils in the learning process of vocabulary, helping pupils to construct meaning, and demonstrating their learning (Alashry, et al., 2018).

With the use of Frayer model as a tool in intervention program, researchers found out significant effect on the vocabulary of sixty students of first grade senior high school (Nahampun and Sibarani, 2014), significant improvement of 32 students' achievement in vocabulary mastery (Mardiyah, 2014), and improvement of vocabulary comprehension of Japanese university students (Sullivan, 2014). Graphic organizer is a brain-based strategy. This strategy utilizes as visual processing. Teachers utilize this strategy to help students organize their thinking.

The aforementioned studies concentrated on performance of students in English and Science subjects. No studies were conducted related to Public Administration courses. On the other hand, with the positive results of different studies on the utilization of graphic organizers, the researchers are also hoping for better academic performance of Public Administration students with the use of graphic organizers. The objectives of this study is to determine the test scores of the Public Administration students before and after the utilization of graphic organizers as learning tool in a special instruction, and to test the difference between these scores at 0.05 level of significance. The null hypothesis is stated as no difference between the pretest and posttest scores at 0.05 level of significance.

MATERIALS AND METHODS

The pretest posttest experimental design was used in this study. The subjects are students (12 students) included in below 20% rating in the pretest. The pretest is a 20-item multiple choice test covering the topics of the first chapter of the course PA 107 Administrative Law. The pretest was administered last September 23, 2020 to the student at the same time. A special instruction was conducted to the students where graphic organizers served as written activities lasted for two weeks. Examples of graphic organizers utilized as a learning tool are concept map, Venn diagram, Frayer model, and I-chart. Posttest was administered in October 7. The Google form was used in the administration of the 10-minute pretest and posttest. Paired sample t-test was used to analyze the scores.

RESULTS AND DISCUSSION

Table 1 presents the test score of the third year Public Administration students before and after the utilization of graphic organizers as learning tool in the special instruction.

Table 1. Test score of the students before and after the utilization of graphic organizer

Score	Before	After
3-5	4	1
6-9	8	8
10-12	0	3

There are 12 students comprising of below 20% of the class based on the actual rating of the pretest for the subject Administrative Law. The test has 20 items. Before the utilization of graphic organizers as learning tool in the special instruction, four students score between 3-5 and eight students between 6-9.

After the utilization of graphic organizers as learning tool in the special instruction for the subject Administrative Law, only one student scores between 3-5, eight students have 6-9 correct answers, and three students with 10-12 correct answers. This suggests that there is a progress in the performance of the third year Public Administration students based on the post-test results. This corroborates with the study of Pariska (2013) and Shabiralyani et al. (2015) on the improvement of learners' performance using paper-and-pen activities. In the study of Manuel (2003), it reveals that instructional materials like pictures, realia and graphs are very effective for senior high school students.

A teacher's competence can be measured by the number and variety of instructional aids he or she uses and the way these are utilized. It is also important to use these aids that are related to the lesson. A saying goes that a picture is a thousand words. Use the right picture at the right time and save a thousand words. This tells about the appropriateness of any teaching material to promote learning. Others think that only commercially produced audio-visual aids make good learnig material. Some think that devices are meant only for display and for special occasions like demonstration teaching and inter-visitations. On the contrary, teachers should be used these daily if necessary. This can be as a motivation device, as a source of information and as a summary device (Rivera and Sambrano, 1980).

Education around the world is experiencing major paradigm shifts in educational practices of teaching and learning (Manuel, 2003). To give every student the opportunity to learn the lesson appropriate to his dominant intelligence and learning style, there is a need to have a pool of learning activities and techniques at our disposal. For spatial intelligence, examples of classroom activities are concept maps, graphs, chart, art projects, metaphorical thinking, visualization, and visual presentation. Spatial intelligence is sensitive to representing ideas, drawing and sketching, noticing visual images, and creating mental images. And looking at the learning style summary, spatial is connected to sensing-thinking or mastery level where learners prefer to see tangible results, practice what they learn, follow one step at a time, active rather than passive, and know exactly what is expected and how a task must be done (Corpuz and Salandanan (2003).

Table 2 shows the performance of the third year Public Administration students before and after the utilization of graphic organizers as learning tool in the special instruction

Table 2: Difference Between Pre-and Post-Test Results

Cate gories	Mean	SD	Diff	t	Sig
Pre-Test	5.67	1.5557	1.9128	-4.075	.002
Post Test	7.92	2.2344			

It can also be noted from the table that there is a significant difference between the pretest and post-test scores with 0.002 lower than the expected value of 0.05 with a t-value of -41.00. The null hypothesis which states that there is no significant difference between the performance level of third year students before and after the utilization of graphic organizers as learning tool is rejected. The integration of graphic organizers as a learning tool has an effect on gaining knowledge and it can be claimed that the treatment affected the students' familiarization and retention of concepts on Administrative law.

The result of the study supports the study of Assaf, et al. (2011) on the use of I-chart that produces significant difference in the performance of learners and the research of Ramezanali (2017) on the significant

difference in the use of vocabulary instruction in productive retention of concepts and recognition tests against non-use of vocabulary instruction. According to Heigligman (2019), the use of I-chart helps a pupil to integrate prior knowledge or thoughts about the topic with additional information found in several sources. This instructional strategy fosters critical thinking and strengthens reading skills. It also serves as an evaluation tool for how much a pupil has learned about a topic.

Another study that corroborates with the result of this research is the investigation made by Condidorio (2010) on the effectiveness of literacy strategy like I-chart in improving the learning of pupils in a science class. She found out in using literacy strategy in science class, students were successful in using the open-mindedness of the strategy to gain a more thorough understanding of concepts. In utilizing literacy strategies in the content areas, student learning and independence are increased and they are more prepared to practice these skills independently.

Pamo (2012) also revealed in his study that with the utilization of strategic intervention material, his students perform better in Science. These students are exposed to four intervention materials. In the study of Castillo (2004), content-based materials are found to be effective in the development of skills like getting the main idea, predicting outcomes, making conclusions, and making inferences and judgment. Pablo (2001) recommended the use of instructional materials as teaching strategy. However, this should be resourceful and precise. Also, the supplementary materials in conducting different actions should be simplified.

CONCLUSION AND RECOMMENDATION

Before the utilization of graphic organizers as learning tool in the special instruction, four students score between 3-5 and eight between 6-9. After the utilization of graphic organizers as learning tool in the special instruction, only one student scores between 3-5, eight students have correct answers of 6-9, and three students with correct answers of 10-12. There is a significant difference between the pretest and post-test scores with 0.002 lower than the expected value of 0.05 with a t-value of -41.00.

It is concluded that majority of the students perform below the average. This is before the utilization of graphic organizers as learning tool in the special instruction. After the utilization of graphic organizers as learning tool in the special instruction, three or 25% of the students perform at the average. The utilization of graphic organizers like concept map, I-chart, Venn diagram, and Frayer model as a learning tool has an effect on gaining knowledge and it can be claimed that the treatment affected the students' familiarization and retention of concepts on Administrative law, a major subject of Public Administration students. With these conclusions, the utilization of graphic organizers as a paper-and-pen activity in PA 107-Administrative Law and other courses of the Bachelor of Public Administration is recommended.

REFERENCES

Alashry, Sara Albadawy Abdel-Naby et al (2018). The impact of the Frayer model and contextual redefinition strategy on improving preparatory stage pupils' vocabulary learning. Journal of Research in Curriculum, Instruction and Educational Technology, Volume 4, No. 4.

Assaf, Lori Czop et al. (2011). Renewing two seminal literacy practices: I-charts and I-search paper. Voices from the Middle, Volume 18, Number 4.

Castillo, Rachel C. (2004). Content-based instructional materials in the development of critical thinking in Reading I. Masters thesis. Tarlac State University. Tarlac, Philippines.

Corpuz, Brenda B. and Gloria G. Sambrano (2003). Principles and Strategies of Teaching. Lorimar Publishing Company Incorporated. Metro Manila.

Condidorio, Kristina (2010). The usefulness of graphic organizers in enhancing science learning. Master's thesis. St. John Fisher College.

Cuban, L. (2001). Computers in the Classroom. Harvard University Press, Cambridge, MA.

Hanson, S. and Padua, J, F.M. (2011). Teaching vocabulary explicitly. Pacific Resources for Education and Learning.

Heigligman, Deborah (2019), Inquiry charts. All about adolescent literacy: Resources for parents and educators of kids in grades 4-12.

Manuel, Don A (2003). Motivational instructional strategies and materials utilized in senior high school. Masters thesis. Pangasinan State Unviersity, Open University Systems. Master of Arts in Educadtion. Lingayem, Pangasinan.

Nahampun, T. and Sibarani, E. (2014). The effect of using a Frayer model on students' vocabulary mastery. A thesis. State University of Medan, Indonesia.

Pamo, Neilbrien A. (2012). Strategic intervention materials in Science Grade VI. Masters thesis. Pangasinan State University, Open University Systems. Master of Arts in Education. Pangasinan, Philippines.

Pablo, Elena B. (2001). Instructional intervention in teaching Science and Technology. Masters thesis. Tarlac State University. Tarlac, Philippines

Pariska, Dian (2013). The effect of using inquiry chart strategy toward reading comprehension in report text of the second-year students at MA. Dharun Nahdhah Thawalib Bangkinang. Faculty of Education and Teacher Training, State Islamic University of Sultan Syarif Kasim Riau Pekanbaru.

Ramezanali, N. (2017). The effect of four different modes of instruction on L2 vocabulary acquisition of EFL learners.

Richards, J.C. & Farrell, T. S. C. (2005).Professional development for language teachers. CUP: United Kingdom.

Rivera, Filomena V. and Guillerma E. Sambrano (1980). Toward Effective Teaching. Kalayaan Press Marketing Enterprises Incorporated. Quezon City.

Stockton, William M. (2016). The effect of explicit science vocabulary instruction on vocabulary acquisition on the Flathead Indian reservation. Master's thesis. Master of Science in Science Education. Montana State University.

Sullivan, M. T. (2014). Using adapted Frayer model as a graphic organizer for graph vocabulary. In N. Sonda and A Krause (Eds) JALT2013 Conference Proceedings, Tokyo.