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INCREASING THE AWARENESS IN GLOBAL WARMING OF GRADE 11 LEARNERS OF BUSOK NATIONAL HIGH SCHOOL SCHOOL THROUGH THE USE OF "PRESENT-ENGAGE-BUILD INFOGRAPHIC UTILIZATION TECHNIQUE

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ABSTRACT

As facilitator of learning selecting appropriate materials in teaching-learning process is extremely crucial. It shouldn't only specialize in the question "How to be taught?" but also the questions of " how the talents and knowledge required to be transferred?", "What resources are available for this purpose of transfer of learning?", "How can we give learning skills to the students?", and "What materials can increase student motivation?". In direct statement, what materials are often used for the learners and the way are going to be transferred effectively to the learners.

This student aims to sought to answer the following questions, first, what is the mean score of the students before and after the use of "Present-Engage-Build Infographic Utilization Technique" in increasing the students' awareness in global warming? Second, Is there a significant difference in the mean scores of the grade eleven students` before and after using the "Present-Engage-Build Infographic Utilization Technique" in increasing the students' awareness in global warming? And the last one, what implication can be deduced from the result of this study for the improvement of "Present-Engage-Build Infographic Utilization Technique" in increasing the students' awareness in global warming?

It revealed that the pre-test acquired a Mean of 34.26 and mean of 68.06 substantiate the post-test result. Clearly reflects that there was a remarkable increase in the Mean of pretest of the respondents after the utilization of infographic materials. This is an apparent intimation that the utilization of infographic materials is an effective and potent infographic materials in increasing the awareness of global warming through the utilization of "Present-Engage-Build Infographic Utilization Technique"

I. INTRODUCTION

Landscaping the education system is one among the foremost challenging tasks of each educator. Embracing the K to 12 curriculum has set the tutorial leaders for a battle on the way to bridge the learners to the 21st century education. Many things were considered in completing the mission and vision of the K to 12 advocacy. Teaching and learning process focused much on the learners. Transferring of learning demands an excellent challenge to each teacher. It emphasized the learner's innate and natural characteristic to facilitate learnings. This present scenario let the tutorial planner to reshape a replacement horizon for the methods and techniques utilized in the tutorial environment and teaching learning process.

Using modern technology is usually entailed with 21st century education. Giving emphasis on educational developments, underscores the talents like ability to use technological tools, understand and remember the knowledge, teachers expect that students possess the power to accessing information, configuration knowledge, active participation in school, creative and important thinking, interpretation what learners see.

As facilitator of learning selecting appropriate materials in teaching-learning process is extremely crucial. It shouldn't only specialize in the question "How to be taught?" but also the questions of " how the talents and knowledge required to be transferred?", "What resources are available for this purpose of transfer of learning?", "How can we give learning skills to the students?", and "What materials can increase student motivation?". In direct statement, what materials are often used for the learners and the way are going to be transferred effectively to the learners.

Visual material is one among the utilized tools to possess effective transfer of learning. Visualization that's supporting by visuals is one among the foremost frequently used method within the teaching-learning process. Through visualization learner get to establish engagement and organize ideas in the mental process. The main purpose of using visual aid in the classroom is not to give just a graphical map data but to absorb required actual knowledge and to keep in mind or make it more easily remembered. In order to see many tools are used like concept maps, graphic organizers, flow diagrams, simulations, pictograms.

Infographic materials is one among the very best sort of visual materials. It has the features of presenting and transferring of complex or high amounts of data especially within the text, important data, tables, and figures. numerical data and illustration

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as well. The peculiar characteristic of infographic is that it can transform long and sophisticated information transform to simpler and understandable knowledge. This makes the presentation a big and memorable mental interaction with the learners. Information are administered during a vivid and visual presentation of complex data. Combining these appropriate utilization technique of infographic materials would result to an efficient transfer of learning to the learners.

The above information caught the eye of the researcher to device a way in utilizing the infographic materials in increasing the worldwide warming awareness of the Grade 5 pupils. It was observed by the researcher that in the Science class, learners showed low interest and a spotlight to science lesson. The MPS of the pupils was ostensibly decreasing when the teacher compared the MPS of first grading and therefore the MPS of second grading.

Thus, with the alarming condition of the apparent MPS results and observed scenario within the classroom, the researcher developed a way in utilizing infographics materials. The researcher opted that it is very timely to conduct an action research to test if the technique on utilization of infographic materials would increase the awareness of the pupils in global warming. The researcher used "Present-Engage-Build Utilization Technique" in presenting the infographic materials during the teaching learning process.

Research Questions

This study was designed to evaluate the effects of using PEBUT "Present-Engage-Build Utilization Technique" on the utilization of infographic materials on Grade 11 students in increasing the awareness in global warming.

Specifically, it sought to answer the following questions:

1. What is the mean score of the students before and after the use of "Present-Engage-Build Infographic Utilization Technique" in increasing the students' awareness in global warming?
2. Is there a significant difference in the mean scores of the grade eleven students` before and after using the "Present-Engage-Build Infographic Utilization Technique" in increasing the students' awareness in global warming?
3. What implication can be deduced from the result of this study for the improvement of "Present-Engage-Build Infographic Utilization Technique" in increasing the students' awareness in global warming?

Hypothesis

There is no significant difference in the mean scores of the grade eleven students before and after using the "Present-Engage-Build Infographic Utilization Technique" in increasing the students' awareness in global warming.

II. REVIEW OF RELATED LITERATURE AND STUDIES

This chapter included a review of literature and studies which have significant relationship and similarities with the present study.

Recently, infographics has spread throughout many fields in life. It has been used in media, education, awareness initiatives, entertainment, environment protection, etc.

According to Eisssa (2014) Infographic is the art of transferring information and complicated data into cartoons which are much easier for perception and recognition. It does not require reading much information and more texts which leads to effective visual interaction. This statement was supported by the works of Shaltout (2014) that infographic is also called interactive data visualization and information design. It might be represented using this equation; Information + Graphic = Info graphic.

According to Eissa (2014) and Simiciklas (2012) infographics characteristics are simplifying hard and complicated information-based on visual effects to be easier for reading and understanding; transferring data and information from its traditional form as represented by letters and numbers into interesting figures and drawings; using visual scanning to minimize time consumed in reading such massive amount of written data and information, the effectiveness of using infographics art in marketing via social media to attract customers; ease of publication and distribution via social networks; and enforcing the process of saving information as far as possible.

More so, El-Araby (2008) stated that the most prominent characteristics of infographics are it is a visual explanation which helps in understanding and finding information easily; it is a visual graphical representation which integrates vocabulary and figures in a smooth way; It is self-explanatory and it does not require further explanation and clarification; It makes the understanding process faster and consistent; it is internationally understood; it only focuses on the most important points; and it is interesting for readers.

On the contrary, A. Chong (2012) argues that data visualizations—of which infographics are one common example—are becoming "more integral parts of…our students' information diet". Even Facebook in its most recent design iterations, he explains, has focused on delivering information visually (Chong, 2012). The usage of infographics while producing electronic content in a fast and easy way is widely spread. The importance of using infographics in education has increased as learners' desire to understand certain topics by viewing rather than reading, has increased.

Hafeth (2013) conducted a study which aimed at recognizing the effectiveness of using the visual approach along with the aid of a computer to develop second grade, preparatory school female students' sense of place. The researcher used the experimental research design. The study sample consisted of 90 female students at second grade, preparatory school at "Al-Haram preparatory school for girls" in Cairo, Egypt. They were divided into an experimental group of (46) students and a control group of (44) student.

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Coleman (2010) stressed how far primary level school teachers use charts in their educational practices at Alabama University in USA. The researcher used the descriptive design and used the questionnaire to reach desired results. Results showed an increase in teachers' usage of charts which included most educational practices.

As S. Hill and C. Grinnell (2014) argue, that if teachers want the students to be successful in telling the stories of science and industry, the teacher to give them the tools available to them to do that. One of those tools is the infographic. Infographics can be particularly useful for STEM students because they encourage students to show relationships, represent complex data clearly, and consider users' knowledge and experience (Chong, 2012; Hill & Grinnell, 2014).

Infographics, efficient visual representations of information that use visual relationships to make an argument, provide one way to accomplish this goal by engaging students in the process of research and writing as creating, not just reporting. Indeed, we argue that infographics can teach students what J. Purdy (2014) calls "design thinking," an invention strategy that asks writers to explore multiple composing possibilities and to see design as a critical strategy connecting multimodal and alphabetic essay assignments.

Educators using infographics will remain ahead of the curve when it comes to teaching practices and techniques. The interfaces of our technology are expanding visually, and we need to use these techniques for improving instruction. Graphic designers and artists have a vast knowledge of illustration, but incorporating complex infographics in the pre-kindergarten to 12th grade curriculum will help all learners grow (Davis, 2018).

SCOPE AND LIMITATIONS

This study was limited only on the effects of of "Present-Engage-Build Infographic Utilization Technique" in increasing the pupils' awareness in global warming. The study was conducted at Anas elementary School. This study used a self-made questionnaire. The research was concluded during the third quarter of the school year. ed to grade five pupils of Anas Elementary School. The participants were limited to those who are currently enrolled in multigrade class of grades five and six. The data were collected through pretest and post-test. The researcher used t-Test to to find the significant difference of the two means of the tests.

III. METHODOLOGY AND RESEARCH DESIGN

Researcher Design

The researcher utilized the descriptive – comparative method where the research itself consider two entities: pretest and past-test of pupils after the use of "Present-Engage-Build Utilization Technique" for infographic materials in global warming. Descriptive was used in getting the mean of the test results of the Grade 11 learners. Descriptive research design is a valid method for researching specific subjects and as a precursor to more quantitative studies (Shuttleworth, 2008).

The pretest was given to the grade five pupils. After the pretest had given the "Present-Engage-Build Utilization Technique" was utilized to the grade five pupils. To see the increase in pupils' awareness pretest and posttest were compared. The significant difference of the pretest and posttest were computed using the dependent t test. The data and information gathered were systematically checked, computed, tabulated and interpreted.

Research Locale

The study was conducted in Busok National High School. The school is a multigrade school and is located in Brgy. Busok, Bagumbayan, Sultan Kudarat. Busok National High School belongs to Bagumbayan District in the Division of Sultan Kudarat.

Population and Sample

Purposive sampling was used in the choice of the Busok National High School as the venue of the research. The total number of respondents were 15 Grade 11 learners with 11 males and 4 females. The respondents were purposively selected because the grade 11 class belongs to a combination class of HUMSS and STEM. Purposive sampling was used in cases where the specialty of an authority can select a more representative sample that can bring more accurate result than by using other probability sampling technique (Explorable.com, 2009).

Research Instrument

The instrument used in the study were the 15 – item pretest and the posttest. The instrument was self-maid by the teacher. The items of the test were taken from the content of the infographic materials which are aligned in Grade 11 Practical Research 1 K-12 curriculum issued by the Department of Education. Validation of the instrument was done by the master teacher in Bagumbayan District, Sultan Kudarat.

Data Gathering Procedure

The researcher asked permission to the school head to conduct study on increasing the awareness in global warming of the pupils through the use of infographic materials.

In this study, the researchers gathered the data through the pretest and posttest. The pretest was administered by the researcher to the Grade 11 learners. It was followed by utilization of the "Present-Engage-Build Utilization Technique". The infographic materials were gradually introduced by the research during the practical research class. The utilization of the materials ran for 3 days.

After the "Present-Engage-Build Utilization Technique" have fully administered and used the research conducted the posttest. The researcher compared the mean of the pretest and posttest to determine if there was a significant difference of the means of the pupils. Pretest- Posttest design is the prepared method to compare participant group and measure the degree of change occurring as a result of treatment or intervention (Shuttleworth, 2009).

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Statistical Treatment of Data

The statistical treatment of data used in the study were:

Mean

$M = \frac{\sum M}{N}$

Where:

M = mean of the pupils' score
∑M =sum of pupils' score
N =total number of pupils

t-Tets

$$t = \frac{\bar{x_1} - \bar{x_2}}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}}$$

Where,

$\bar{x1}\bar{x1}$ = Mean of first set of values
$\bar{x2}\bar{x2}$ = Mean of second set of values
S1 = Standard deviation of first set of values
S2 = Standard deviation of second set of values
n1 = Total number of values in first set
n2 = Total number of values in second set.

IV. RESULT AND DISCUSSION

Table 1

***Mean Score of Pretest and Post-tets using* "Present-Engage-Build Infographic Utilization Technique"**

Grade level	No. of Items	No. of Pupils	Pretest Mean	Pretest Mean	Difference
5	15	15	34.26	68.06	33.80

The table shows the results of the pre-test and post-test of the 15 respondents in the 15-item test conducted by the researcher before and after the utilization of infographic materials.

It revealed that the pre-test acquired a Mean of 34.26 and mean of 68.06 substantiate the post-test result.

The Table 1 clearly reflects that there was a remarkable increase in the Mean of pretest of the respondents after the utilization of infographic materials. This is an apparent intimation that the utilization of infographic materials is an effective and potent infographic materials in increasing the awareness of global warming through the utilization of "Present-Engage-Build Infographic Utilization Technique" .

T-test Result on Finding the Significant Difference in the means of the Grade 11 learners. Before and After the Utilization of "Present-Engage-Build Utilization Technique".

Variables Compared	Df	Means	Computed t-value	Critical t-value	Decision	Impression @ 0.05 Level
Pre-test (X_1) And Posttest (X_2)	14	$X_1 =$ 34.26 $X_2 =$ 68.06	10.46	1.76	Reject Ho	Significant

Table 2 shows the result of the t-test on finding the significant difference in the pre-test and posttest. It can be gleaned from the t-value of 10.46 and the critical level **1.76** the researcher rejected the null hypothesis which is significant at 0.05 level . This shows that there was a significant improvement in the spelling skills of grade 5 pupils because of the remarkable increased of the mean.

RECOMMENDATIONS

The following are hereby recommended based on the result and implications of the study:

1. Teacher should us the "Present-Engage-Build Infographic Utilization Technique" in increasing the learners' awareness in global warming and teaching other Science concept.
2. The Infographic Materials can be used also not only in practical research subject but also from other subject or concept where infographics materials.
3. School head may conduct or organize instructional making LAC session to improve the quality of infographic materials and its utilization to make it more acceptable and visually appealing to the pupils.

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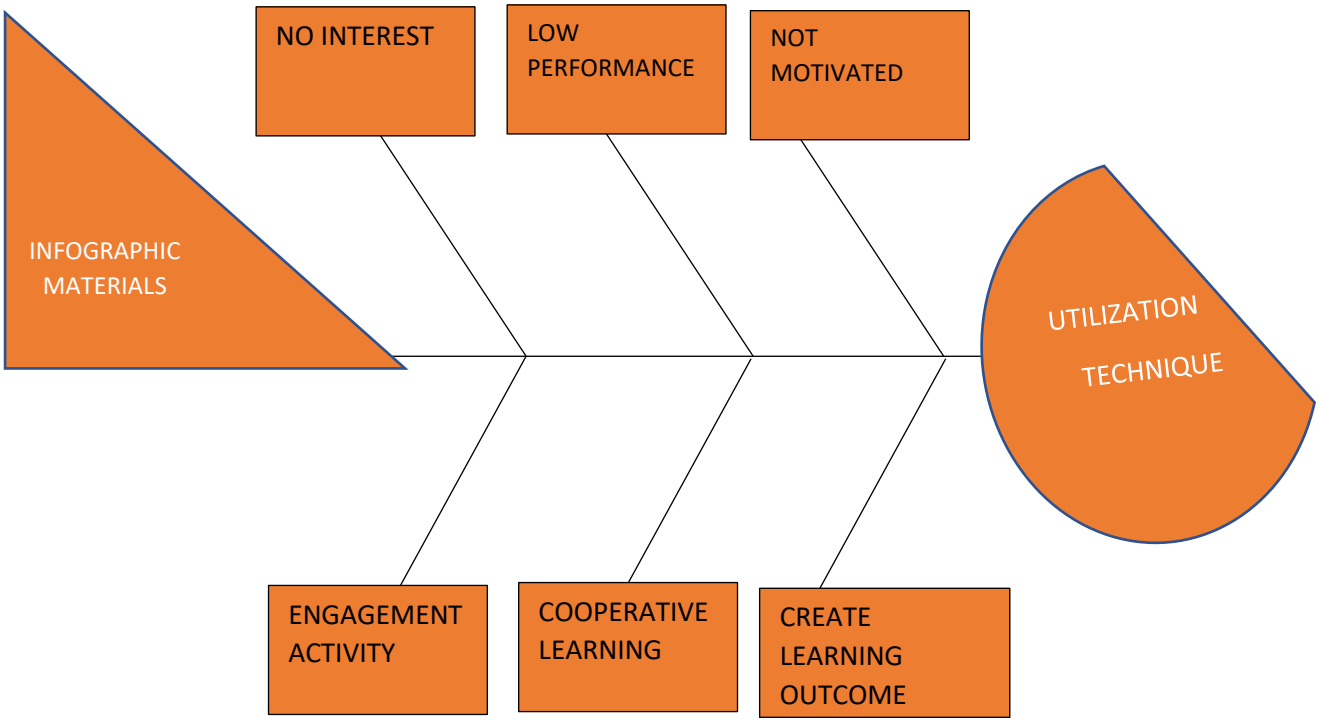
VI. APPENDICES

ROOT CAUSE ANALYSIS

(FISHBONE TECHNIQUE)



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APPENDIX B

Work Plan

RESEARCH ACTIVITIES	TIME FRAME									
	DECEMBER		JANUARY				FEBRUARY			
	WEEK		WEEK				WEEK			
	3	4	1	2	3	4	1	2	3	4
Formulation of action research title and proposal										
Seek permission to the proper authorities										
Checking of action research proposal- SCHOOL LEVEL										
Revision of the proposal										
Initial assessment of the proposal										
Evaluation of the approved proposal										
Implementing and Conducting of the action research *distribution of TEST *collecting of data *Processing and Analyzing of data										
Preparing the final research paper to complete										
Submission and presentation of the result of the action research										

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- Research Teacher
- Radio Based Instruction Teacher of Radyo Katribu 103.3 FM at Poblacion, Tboli South Cotabato for Quarter 1 of SY 2020-2021
- Des. Property Custodian and Supply Officer of Tboli National High School (2020 to Current)
- Tournament Manager during Unit Meet V Athletic Meet 2019
- Winning Coach during Unit Meet V Athletic Meet 2019
- Coach – Division Schools Press Conference
- License Examination for Teacher Passer (September, 2017)

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Teacher I	**:**	**Tboli National High School** Poblacion Tboli, South Cotabato January 2, 2020 to present
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