

The Viability of Deped Textbooks as the Primary Material for the Modular Distance Learning Modality of Carrascal National High School

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Abstract Carrascal National High School is bound to implement the Modular Distance Learning Modality for this School Year 2020-2021. Specifically, the school has prepared printed modules and worksheets to be allocated to the students come opening of classes on the 5th of October 2020. One of the challenges provoked during the start of the fulfillment of the School's Learning Continuity Plan was the unavailability of sufficient fund and materials for the reproduction as well as the very tedious processes of sorting out the printed modules. Thus, researchers of Carrascal NHS decided to conduct a study on the viability of textbooks as the primary materials for modular distance learning. It aims to find out the level of efficacy of textbooks compared to the teacher-made worksheets. Purposive sampling was used in the conduct of the study. Thirty (30) Grade 9 students from Brgy. Gamuton tagged as the control group used teacher-made worksheets and thirty (30) Grade 9 students from Brgy. Doyos labelled as the experimental group used Deped textbooks. Based on the data gathered through a 10-item standardized post-test per subject area and a survey, T-test and Mean Score were used to analyze and interpret results. It can be inferred that there is no significant difference as to the effectuality of using textbooks and the use of teacher-made worksheets. Both are effective and therefore, can be used as materials for modular distance learning.

Keywords: distance learning, Deped textbooks

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1. Introduction & Rationale

The COVID-19 has resulted in schools shut all across the world. Globally, over 1.2 billion children are out of the classroom. As a result, education has changed dramatically, with the distinctive rise of distance learning, whereby teaching is undertaken remotely and on digital platforms.

While countries are at different points in their COVID-19 infection rates, worldwide there are currently more than 1.2 billion children in 186 countries affected by school closures due to the pandemic. In Denmark, children up to the age of 11 are returning to nurseries and schools after initially closing on 12 March, but in South Korea students are responding to roll calls from their teachers online.

With this sudden shift away from the classroom in many parts of the globe, some are wondering whether the adoption of distance and online learning will continue to persist post-pandemic, and how such a shift would impact the worldwide education market.

In the Philippines, instead of physical classes, the Department of Education will implement distance or remote learning. This method delivers lessons through

various ways, including online, television, radio, and printed materials.

As lockdowns ease and schools start to reopen in some places across our region, it's as good a time as any to take stock and look at the likely future of education.

Children who start school from now on will grow up to be workers and leaders in a digital-first world that will demand new skills and new ways of thinking.

To succeed in life and at work, they will need all the social, emotional, and academic support they can get via rich and flexible learning experiences that will differ vastly from the schooldays of their parents.

Of all the alternative learning modalities offered by the Department of Education (DepEd) this upcoming school year, most students prefer to use the "modular" distance learning option.

Since face-to-face classes are not yet allowed, the DepEd will implement Blended/Distance learning wherein the combination of the various distance learning modalities such as printed modules, offline digital modules, online, and TV and Radio-based instruction will be used by students and teachers when classes formally start on October 5, 2020.

Based on the partial results of the Learner Enrollment and Survey Forms (LESFs) distributed during the

enrollment period, it showed 7.2 million enrollees prefer to use modular distance learning, TV & Radio based instructions and other modalities while only 2 million enrollees prefer online for school year 2020-2021.

In Carrascal National High School of the division of Surigao del Sur, there are around 1,300 students who are initially enrolled as of July 2020. Seventy percent of these learners prefer to have modular learning delivery in print. This will entail a number of printed materials to be distributed to the learners which can be alarming in terms of cost efficiency.

In the macro scale, the supply of papers and other printing materials will be depleted with the onslaught of the demand for them as the school year progresses.

With this, the researchers sought to find the viability of the textbooks/modules from Department of Education as the main materials for distant learning.

2. Literature Review

A module can be defined as a unit, chapter, topic, or segment of instruction. It is a standard unit or instructional section of your course that is a “self-contained” chunk of instruction. A week is a common module length, but it can be shorter or longer depending upon content and your teaching style.

A module structure is especially important in online learning environments, as it provides an aid in the presentation and application of the distant teaching and learning process. When students are aware of the structure of the course, they spend less time guessing about what is expected of them and more time focusing on the content and activities (*boisestate.edu*).

There are several advantages to a modular presentation. The most important one is that it allows for better evaluation and more focused revision and improvement. Modifying a module is easier and more cost effective than revising a course or one large module [1].

The original form of distance learning was correspondence courses, in which print materials were mailed to students and returned to the teachers through the postal system. Even though there are numerous new options for distance learning, print remains a significant component of most courses.

Print materials may serve as the primary source of instruction, or they may be supplemental. As a primary source, distance students might use a textbook and read various units on a specific timetable. Other technologies, such as e-mail, could then be used to ask questions or send assignments back to the teacher.

As a supplement to instruction, text materials may take the form of worksheets or study guides that are used in conjunction with video or voice technologies. It is important to note that the supplemental print materials may be disseminated via regular mail or over the Internet. In addition, fax machines are often used to transmit the print materials back and forth between the students and the teachers [2].

Here are some advantages of Print Materials: (a) Extremely portable. Print materials can be used in any location. (b) High comfort level. Most students are very

comfortable using print materials to learn. (c.) Cost effective. Print materials can be created and duplicated with little expense. (d.) Readily available. Many distance learning courses can take advantage of existing textbooks, thus saving the time and expense of creating custom materials.

And here are the Disadvantages of Print Materials: (a.) No interactions. Print materials do not generally provide built-in interactions. Additional technologies, such as e-mail, must be supplemented. (b.) No audio/visual elements. Print materials are static and are not appropriate for teaching languages and visual concepts. (c.)

Require reading skills. If the learners are non-readers or language skills are required, print materials will not be effective. (d.) Time delay. It may take days or weeks for printed matter to travel between student and teacher.

Textbooks largely determine not only what topics and ideas are taught in the classroom but also the way they are presented to students ([3], p. 539). Thus, textbooks affect learning and teaching in many different ways. There are studies on the approaches on the effects and efficacy of textbooks, aligned to the major areas of research in this field. In doing so, it summarizes empirical evidence produced in different fields dedicated to textbooks and educational media.

Although textbooks are a traditional component in many higher education contexts, their increasing price have led many students to forgo purchasing them and some faculty to seek substitutes. One such alternative is open educational resources (OER). This present study synthesizes results from sixteen efficacy and twenty perceptions studies involving 121,168 students or faculty that examine either (1) OER and student efficacy in higher education settings or (2) the perceptions of college students and/or instructors who have used OER. Results across these studies suggest students achieve the same or better learning outcomes when using OER while saving significant amounts of money. The results also indicate that the majority of faculty and students who have used OER had a positive experience and would do so again [4].

For better or worse, the textbook remains a staple in education. The literature regarding the use of textbooks and other curriculum materials is extensive and complex. Crawford and Snider [5] argue that curriculum materials are a vital part of the educational enterprise, suggesting that the vast majority of classroom instruction is centered on textbooks. In contrast, Slavin and Lake’s [6] synthesis of 87 mathematics curriculum studies indicates that instructional improvement had a larger impact on student performance than the choice of curriculum. Determining the efficacy of one set of curriculum materials relative to another is often difficult. For example, the National Research Council (2004) reviewed 698 peer-reviewed studies of nineteen different mathematics curriculum materials at the K-12 level (ages 5-18) and found that they were could not state which programs were most effective.

The lack of clarity regarding the overall efficacy of textbooks is compounded by the fact that many students do not or cannot access commercial textbooks (CT), particularly in higher education because of their high cost. In many cases, students report not purchasing required CT

and consequently underperforming academically [7]. In addition to academic challenges, the high cost of CT is part of a larger problem college affordability connected with more than half of college students reporting some level of food insecurity [8].

Consequently, recent years have seen a dramatic increase in the use of open educational resources (OER), which are defined as “teaching, learning, and research resources that reside in the public domain or have been released under an intellectual property license that permits their free use and repurposing by others” [9]. OER provide a no-cost alternative to CT, and may provide several material benefits to students. For example, a significant number of students who used OER reporting spending the money saved to purchase groceries [10]. OER advocates argue that replacing CT with OER will benefit students financially and may improve their academic performance.

Two key qualities faculty consider when selecting learning materials for their students are proven efficacy and trusted quality [11]. Some have a perception that free textbooks equal lower quality textbooks and therefore lower learning outcomes [12], thus research has been performed to examine the quality and efficacy of OER. To examine research connected with these criteria, Hilton (2016) synthesized research regarding the relationship between OER use and student performance (proven efficacy) as well as student and faculty perceptions of OER (trusted quality). He identified a total of sixteen OER efficacy and perceptions studies had been published between 2002 (the year the term “Open Educational Resources” was coined) and August, 2015.

3. Research Questions

This study delved on the viability of DepEd textbooks as the main modules for distant learning of Carrascal National High School, Division of Surigao del Sur. Specifically, it sought to answer the following questions:

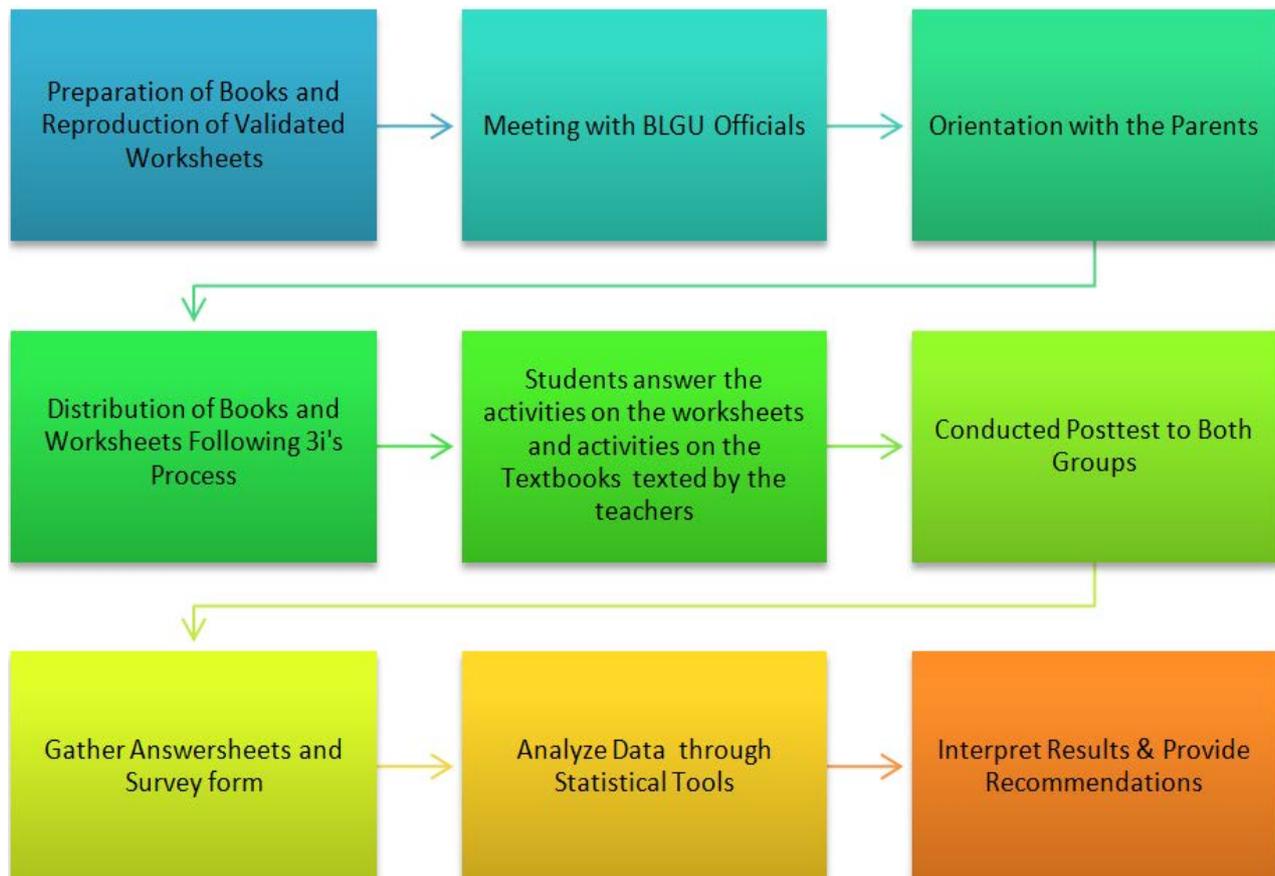
1. What is the mean score of the learners using printed worksheets?
2. What is the mean score of the learners using DepEd textbooks?
3. Is there a significant difference between the mean of the learners using worksheets and the mean of those who used DepEd textbook?
4. How viable is the use of DepEd textbooks as main modules for distant learning of Carrascal National High School, Division of Surigao del Sur?
5. What are the facilitating and hindering factors on the use of DepEd textbooks as the main modules for learning?
6. On the basis of the findings, what possible recommendations are there?

3.1. Hypothesis

The study was guided by the null hypothesis

Ho: There is no significant difference between the mean score of the learners using worksheets and the mean score of those using DepEd textbooks.

3.2. Research Flow



4. Scope and Limitation

The study examined the viability of DepEd textbooks as the main modules for distant learning of Carrascal National High School, Division of Surigao del Sur. It focused on the thirty (30) Grade 9 students of Barangay Doyos, Carrascal, Surigao del Sur as the experimental group with the (30) grade 9 students of Gamuton, Carrascal, Surigao del Sur as the control group. The data collected from the result of the post-test and the questionnaire and analysis ensured the validity of the findings.

5. Research Methodology

A. Sampling

Purposive sampling was used in the choice of Brgy. Doyos and Brgy. Gamuton as the venue of the research. Specifically, the Grade 9 students of Carrascal NHS residing in these chosen Barangays were the respondents. The total number of respondents is sixty (60). The Grade 9 students as the respondents were purposively selected since Grade 9 Level has enough textbooks in the seven (7) Core Subjects of the K-12 Curriculum which were used in the conduct of the study. Using simple random sampling, thirty (30) students from each Barangay were picked and served as the Control Group and Experimental Group respectively. Students from Brgy. Gamuton served as the Placebo and the students in Brgy. Doyos were part of the Experimental Group.

According to the Explorable.com website [13], purposive sampling is used in cases where the specialty of an authority can select a more representative sample that can bring more accurate results than by using other probability sampling techniques.

B. Data Collection

Prior to the collection data, the researchers observed entry protocol to the Barangay Officials of the identified Barangays. The Barangay personnel were formally informed of the study to be conducted. A formal letter asking for the approval of the conduct of the orientation was submitted to the concerned individuals. After obtaining permission and approval, preliminary entry to the research locale through Parents Orientation was done by the Grade 9 Subject Teachers and Class Advisers.

The parents of students were oriented regarding the different processes concerning the conduct of the study. Contact numbers of each parent were gathered, and materials were distributed following the 3i's process of

Carrascal NHS. The utilization of the materials ran for a week and a post-test was administered before the last day. The researchers compared the mean of the post-test to determine if there was a significant difference between the two groups. To observe intellectual property rights, all data gathered were subjected to utmost confidentiality.

6. Discussion of Results

This part deals with the presentation, analysis and interpretation of the data.

Problem 1 and 2. What is the mean score of the learners using printed worksheets? What is the mean score of the learners using DepEd textbooks?

Table 1 shows the mean score of both groups. Students from Brgy. Gamuton acquired a Mean of 42.47 with Standard Deviation of 9.58 while respondents in Brgy. Doyos got a Mean of 45.73 with 9.88 Standard Deviation.

The table above reflects that there was a 3.26 difference in terms of the Means of the two groups in favor to the Experimental Group.

As part of the data analysis, P value and Significance Level at **0.05** were used. Computed P-value which was equal to **0.19** is greater than Significance Level 0.05. If these are to be considered, the Null Hypothesis is accepted.

This implies that the degrees of learning among the experimental and control group are of the same level since most of the contents of the worksheets came from the validated activities and key concepts of the textbooks.

Textbooks have been known for decades as a dominant instructional tool in education. It is the textbook in thousands of classrooms that determine the content of instruction as well as the teaching procedures (Hsingchi, 1998).

Problem 3. Is there a significant difference between the mean of the learners using worksheets and the mean of those who used DepEd textbook?

Table 2 shows the result of the T-test on finding the Significant Difference between the Control Group using worksheets and Experimental Group using Textbooks. It can be gleaned from the t-value of **1.29** and the critical level of **2.00**, the researchers accepted the null hypothesis which is significant at 0.05 level.

This shows that there was no significant difference as to the effectuality and efficiency of both the Textbooks and Worksheets. It can be concluded that both materials have the same level of effectuality and considered effective and efficient materials to be used in the Modular Distance Learning Modality of Carrascal National High School.

Table 1. Mean Score of the Learners using Textbooks and using Worksheets

Variables	Mean	Standard Deviation	P-Value	Significance Level	Decision
Brgy. Gamuton (Control Group) vs Brgy. Doyos (Experimental Group)	42.47 45.73	9.58 9.88	0.19	0.05	Accept H_0

Table 2. T-test Results on finding the significant difference between the mean of the learners using worksheets and the mean of those who used DepEd textbooks

Group	T-Statistic Value	T-Critical Value	Decision
Brgy. Gamuton (Control Group vs Brgy. Doyos (Experimental Group)	1.29	2.00	Accept H_0

Problem 4. How viable is the use of DepEd textbooks as main modules for distant learning of Carrascal National High School, Division of Surigao del Sur?

Based on the result of the T-test on finding the Significant Difference between the Control Group using worksheets and Experimental Group using Textbooks, it was found out that there is no significant difference between the control and experimental groups. Thus, the use of DepEd textbooks as main modules for distant

learning of Carrascal National High School, Division of Surigao del Sur is viable.

Problem 5. What are the facilitating and hindering factors on the use of DepEd textbooks as the main modules for learning?

The table shows the percentage for each response from the given statements as answered by the respondents. It can be observed that most of the respondents agreed each statement except for 5th statement where most of them were neutral.

Table 3. Facilitating and Hindering Factors on the use of DepEd textbooks as the main modules for learning (Survey Results as to the effectiveness of Textbook-based Modality)

Basaha an mga teksto sa ubos hampan mag check kun Ujon ba kaw o Dili sa mga ine na teksto.	<i>Strongly Agree</i>	<i>Agree</i>	<i>Neutral</i>	<i>Disagree</i>	<i>Strongly Disagree</i>	<i>TOTAL</i>
1. Bisan wayay maestro/maestra nagtudlo sa amo face to face, jaoy amo nakat onan pinaagi sa text ug textbook.	23%	47%	20%	7%	3%	100%
2. Dali ra tubagan an mga himoonon sa libro tungod kay detalyado ang mga pamaagi sanan impormasyon.	20%	47%	16%	10%	7%	100%
3. An mga teksto sa libro haom sa mga sitwasyon sa pang adlaw-adlaw na pagkinabuhe.	7%	53%	27%	10%	3%	100%
4. Jaoy amo magamit na tun-anan sa bayay bisan uno orasa labi na sa pagbasa nan klase klase na teksto.	27%	50%	17%	3%	3%	100%
5. Dali masabtan an leksyon tungod kay plastado an pagkasunod sunod nan mga teksto sanan himoonon.	10%	33%	37%	13%	7%	100%
6. Sajon ra ma contact an mga subject teachers kun jaoy mga pangutana bahin sa leksyon ug mga activities sa libro.	50%	33%	7%	10%	0%	100%
7. Marajaw gamiton an libro isip material sa distance learning kuman new normal kay ine na daan sa amo pirme an libro.	37%	50%	3%	10%	0%	100%
8. Natubagan namo an mga pangutana sanan himoonon gumikan sa pag giya nan maestro/maestra pinaagi sa pagcontact sa text, tawag ug chat.	30%	43%	13%	7%	7%	100%
9. Komportable kami sa paggamit nan libro tungod kay igo rakan kami magpasa nan output pagka biyernes.	27%	50%	13%	7%	3%	100%
10. Mga dugang na komento mahitungod sa kini na pamaagi: _____						

Scale:

5- Strongly Agree (Ujon Karajaw)

4- Agree (Ujon)

3- Neutral

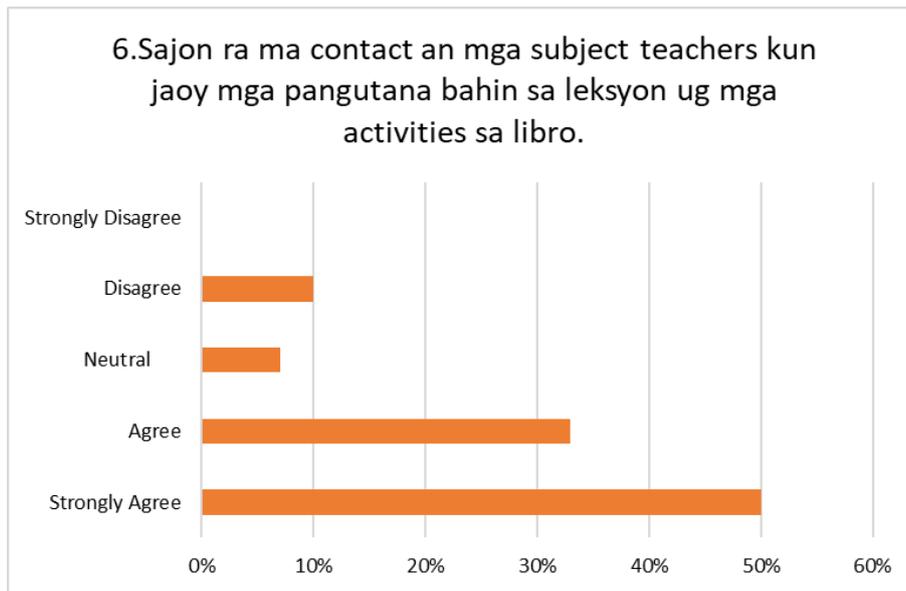
2 -Disagree (Medyo Dili Ujon)

1-Strongly Disagree (Dili Gajud Ujon)

Table 4. Mean of the Different Survey Statements and the Description

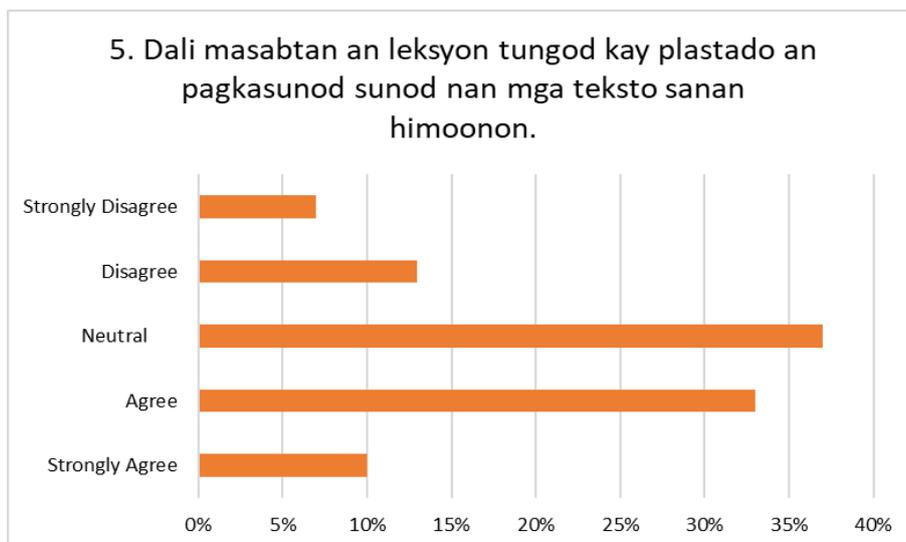
STATEMENTS	MEAN	DESCRIPTION
1. Bisan wayay maestro/maestra nagtudlo sa amo face to face, jaoy amo nakat onan pinaagi sa text ug textbook.	3.80	Agree (Ujon)
2. Dali ra tubagan an mga himoonon sa libro tungod kay detalyado ang mga pamaagi sanan impormasyon.	3.63	Agree (Ujon)
3. An mga teksto sa libro haom sa mga sitwasyon sa pang adlaw-adlaw na pagkinabuhe.	3.50	Agree (Ujon)
4. Jaoy amo magamit na tun-anan sa bayay bisan uno orasa labi na sa pagbasa nan klase klase na teksto.	3.93	Agree (Ujon)
5. Dali masabtan an leksyon tungod kay plastado an pagkasunod sunod nan mga teksto sanan himoonon.	3.27	Neutral
6. Sajon ra ma contact an mga subject teachers kun jaoy mga pangutana bahin sa leksyon ug mga activities sa libro.	4.23	Agree (Ujon)
7. Marajaw gamiton an libro isip material sa distance learning kuman new normal kay ine na daan sa amo pirme an libro.	4.13	Agree (Ujon)
8. Natubagan namo an mga pangutana sanan himoonon gumikan sa pag giya nan maestro/maestra pinaagi sa pagcontact sa text, tawag ug chat.	3.83	Agree (Ujon)
9. Komportable kami sa paggamit nan libro tungod kay igo rakan kami magpasa nan output pagka biyernes.	3.90	Agree (Ujon)

The table illustrates that out of 9 survey statements, 8 of these statements were agreed by the respondents based on the Mean for each given statement. It can be noted that most the respondents are neutral for Statement no. 5 with a mean score of 3.27 and most of them agreed to Statement no. 6 with a mean score of 4.23.



Graph 1. Graph of the responses of the respondents for Statement Number 6

Based on the graph, 50% of the respondents strongly agreed that they can easily reach out to their teachers whenever they have questions and clarifications regarding the activities on the textbook. This is considered as the facilitating factor.



Graph 2. Graph of the responses of the respondents for Statement Number 5

For the 5th statement, as shown on the bar graph, 37% of the total number of respondents are neutral regarding the understandability of the lesson because of the sequence of the activities and concepts on book. This can be gleaned as the hindering factor of this modality.

With the release of the Most Essential Learning Competencies (MELC) by the DepEd Central Office, the sequence of the topics on the textbooks is not similar to the sequence of competencies in MELC. Teachers will look for appropriate activities including the specific pages that would fit to the essential competency to be learned by the students for the week.

7. Recommendations

1. It is recommended for Carrascal National High School, division of Surigao del Sur to utilize the DepEd textbooks as main modules for distant learning since it is cost-efficient.
2. Since it has been proven that there is no significant difference between the efficacy of the teacher-made modules and the DepEd textbooks, it is highly recommended that a policy to adapt the use of DepEd textbooks as main modules for distant learning be done by the top management of the division office.
3. It is recommended that a capacity building on how to prepare lesson plans and writing clear instructions to learners for remote learning using DepEd textbooks will be given to the teachers of the division of Surigao del Sur.
4. It is highly recommended to give information dissemination on the result of this study to the different districts for the schools to consider DepEd textbooks as the main modules for distant learning.

5. A Learning Action Cell in each district on how to design supplemental materials for the DEpEd textbooks is also recommended.
6. It is recommended for future researchers to conduct studies on the following: Best practices of schools in the division of Surigao del Sur on the use of DepEd textbooks as the main learning material for distant learning; Supplemental worksheets to aid textbooks in distant learning and Mainstreaming digitized activities from DepEd textbooks for e-learning.

Definition of Terms

The following are the terms used in the study:

VIABILITY. Capability of doing what is intended to do.

TEXTBOOKS. A book which is an exposition of generally accepted principles in one (1) subject, intended primarily as a basis for instruction in a classroom or pupil-book-teacher situation. [14]

WORKSHEETS. Pieces of paper or an electronic document on which there is a series of questions and exercises to be done by a student. (oxfordlearnersdictionaries.com/)

MODULAR DISTANCE LEARNING. It involves individualized instruction that allows learners to use SLMs in print or digital format, whichever is applicable in the context of the learner, and other learning resources like learner's materials, textbooks, activity sheets, study guides, and other study materials [15].

CONTROL GROUP. In experimental designs, a control group is the "untreated" group with which an experimental group (or treatment group) is contrasted. It consists of units of study that did not receive the treatment whose effect is under investigation. (Lavrakas, 2008)

EXPERIMENTAL GROUP. An experimental group is the group that receives the variable being tested in an experiment. (study.com, 2015)

SIGNIFICANT DIFFERENCE. In principle, a statistically significant result (usually a difference) is a result that's not attributed to chance [16].

- [2] Florida Center for Instructional Technology, College of Education, University of South Florida (2009). A Teacher's Guide to Distance Learning. <https://fcit.usf.edu/distance/chap6.htm>.
- [3] Stern, L., & Roseman, J. E. (2004). Can Middle-School Science Textbooks Help Students Learn Important Ideas? Findings from Project 2061's Curriculum Evaluation Study: Life Science. *Journal of Research in Science Teaching*, 41(6), 538-568.
- [4] Hilton, J. Open educational resources, student efficacy, and user perceptions: a synthesis of research published between 2015 and 2018. *Education Tech Research Dev* 68, 853-876 (2020).
- [5] Crawford, D. B., & Snider, V. E. (2000). Effective mathematics instruction the importance of curriculum. *Education and Treatment of Children*, 23(2), 122-142.
- [6] Slavin, R. E., & Lake, C. (2008). Effective programs in elementary mathematics: A best-evidence synthesis. *Review of Educational Research*, 78(3), 427-515.
- [7] Florida Virtual Campus (2016). *2016 Florida student textbook survey*. Tallahassee, FL. Retrieved August 8, 2020 from <https://florida.theorangevillage.org/og/items/3a65c507-2510-42d7-814c-ffdefd394b6c/1/>.
- [8] Broton, K. M., & Goldrick-Rab, S. (2018). Going without: An exploration of food and housing insecurity among undergraduates. *Educational Researcher*, 47(2), 121-133.
- [9] Hewlett. (2017). Retrieved August 8, 2020 from <http://www.hewlett.org/strategy/open-educational-resources/>.
- [10] Ikahihifo, T. K., Spring, K. J., Rosecrans, J., & Watson, J. (2017). Assessing the savings from open educational resources on student academic goals. *The International Review of Research in Open and Distributed Learning*, 18(7), 126-140.
- [11] Allen, E., & Seaman, J. (2014). *Opening the curriculum: Open educational resources in US*. Babson Park: Babson Survey Research Group.
- [12] Kahle, D. (2008). Designing open educational technology. In J. S. Brown (Ed.), *Opening up education: The collective advancement of education through open technology, open content, and open knowledge* (pp. 27-45). Cambridge: MIT Press.
- [13] Explorable.com. (Sep 13, 2009). Judgmental Sampling. Retrieved Aug 17, 2020 from Explorable.com: <https://explorable.com/judgmental-sampling>.
- [14] RA 8047. (1999). An Act Providing for the Development of the Book Publishing Industry Through the Formulation and Implementation of a National Book Policy and a National Book Development Plan.
- [15] DepEd Order No. 12. (2020). Adoption of the Basic Education Learning Continuity Plan for School Year 2020-2021 in the Light of the COVID-19 Public Health Emergency.
- [16] Sauro, J. (2014). What does Statistically Significant Mean? [Web Page] URL <https://measuringu.com/statistically-significant/> [first accessed 16th August 2020].

References

- [1] Deanie French, Charles Hale, Charles Johnson, and Gerald Farr. 1999. *Internet Based Learning: A Framework for Higher Education and Business*. Stylus Publishing, LLC.



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