ASEAN Journal of Science and Engineering Education

Potholes in the Implementation of Printed Module in Mathematics and Feedbacks of Learners in Lambayong National High School During Covid-19 Pandemic

Elmer JR.P.Serra*, Nikko Jay R.Senope , Charls M.Lariosa

Sultan Kudarat State University, Mindanao, Philippines
Correspondence: E-mail: elmerserra@sksu.edu.ph

A B S T R A C T S

The purpose of the study was to determine the potholes encountered by the students and their feedbacks in implementing printed modules in National High School in the Philippines. Mixed qualitative and quantitative were used, utilizing an adoptive modified five-point Likert's Scale survey questionnaire to 100 students. The finding reveals significant relationships between the academic grades of the students and the potholes in the printed module in mathematics in terms of distribution and retrieval/submission and the assessment of feedbacks indicates no or negligible relationship. 31% commented that they are having problems with math in the modular setup from low motivation, caused by math anxiety resulting in poor understanding on how to apply and perform mathematical operations. 34% suggested that the graphics be made clear because they encountered cloudy graphics and the number was too small for being read. The potholes in the printed module cannot affect the academic performance of the respondents. Results of this study may serve as a basis for individuals who are involved in teaching mathematics during a pandemic for improving the quality of the printed module for a better learning experience from home.

A R T I C L E   I N F O

1. INTRODUCTION

Face-to-face engagement of learners and teachers within the school has also been suspended due to the COVID-19 pandemic. This pandemic has paved the way for the implementation of Modular Distance Learning as an urgent response to ensure continuity of education. In this situation, the Philippines is adapting to the new normal form of education. Continuous innovations of educators and the active involvement of other stakeholders are the driving force for its success. Most countries worldwide have temporarily closed educational institutions to contain the spread of the virus and reduce infection.

For the continuity of education and every school, the Department of Education (DepEd) of the Philippines implemented Printed modular distance learning to attain its mission and vision to provide quality education for every Filipino learner.

Modular learning is a form of distance learning that uses Self-Learning Modules (SLM) based on DepEd's Most Essential Learning Competencies (MELCS). The modules include sections on motivation and assessment that serve as a complete guide of both teachers' and learners' desired competencies. Teachers monitor the learners' progress through home visits (following social distancing protocols) and feedback mechanisms and guide those who need special attention.

Since education is no longer held within the school, parents serve as partners of teachers in education and play a vital role as home facilitators. Their primary role in modular learning is to connect and guide the child. The modular learning implemented by DepEd tests each learner on how to be independent in learning where teacher voices are not required to guide students in their assignments and lessons. Through modular learning, it is possible to measure the talent and ability of each learner on how to learn through their hard work and effort.

According to Lim (2016), many Filipinos find mathematics difficult to understand. Different instructions techniques and strategies have been implemented to improve the teaching process in the math classroom. One of the best ways for students to understand mathematical concepts is to solve problems. Based on the result of his study he concluded that modular teaching is an effective teaching method. Modular teaching performance is significantly better than traditionally taught subjects.

Inferred that the many activities of each module are one of the main problems encountered in it. Implementation of module distance education. The Department of Education should consider this Learn to solve problems, reduce activity and remove unnecessary items possible. As some parents have said, the less the better. One of the concerns a student does not have enough time to answer all modules within a week. If DepEd cannot extend the duration of the module's execution, it should reduce the module activity. All exercise instructions need to be clarified so that the learner can understand them. Themes need to be simplified and teachers provide more examples. Also, all printed images of the module are crisp. Case Face-to-face learning is not yet possible as the number of COVID-19 in the Philippines is still high.

Some academically ready newbies from economically deprived historical past are unable to get right of entry to and have enough money online learning. The degree of educational performance of the students is probable to drop for the classes held for each year-end examination and internal examination due to reduced contact hours for inexperienced persons and lack of consultation with teachers when going through difficulties in learning/understanding (Sintema, 2020).

After analyzing the contents included in the related studies, it was observed that Printed Modular Modality especially in learning mathematics, where there are some disadvantages

and potholes that several learners are experiencing, it can be the content, instructions, and quality of the module. Financial, transportation, and health problems are also some factors that affect student learning in the reason of COVID-19 that we are dealing now a day. Potholes are the problems that the students dealing in answering printed modules in mathematics.

The purpose of this study was to determine if there are potholes of a printed module in mathematics, feedbacks in its relationship to the academic performance of Grade 11 Learners in Lambayong National High School (LNHS) Lambayong, Sultan Kudarat, Philippines. The mixed qualitative and quantitative research methods utilizing an adoptive modified five-point Likert's Scale survey questionnaire facilitated the data gathering while the statistical tools used were frequency counts, percentage, mean, weighted mean, and Pearson rho correlation test. The novelties of the studies are the respondents who are identified as the Grade 11 Senior High School students in LNHS; the variables which are focused on the academic performance of the student if there is a direct relationship between the printed mathematics module in terms of; a. distribution and retrieval/submission, b. assessments of feedbacks, and factors affecting the variable on student perception (feedbacks and suggestions) on printed mathematics modality.

2. METHODS

A mixed qualitative and quantitative research method was used with descriptive technique through a randomized sampling approach utilizing an adoptive modified five-point Likert's Scale survey questionnaire that covers Grade 11 Senior High School students of LNHS. The researcher used this kind of sampling technique because of some restrictions due to the pandemic caused by covid-19, and it is the easiest way to come up with the number of samples to be studied.

In this study, the distribution of the respondents was as follows: there are five rooms in Grade 11 SHS in LNHS. From room 1 to 5, twenty (20) learners from each room were randomly selected to answer the questionnaire. A total of One Hundred (100) respondents were the sample size of this study.

3. RESULTS AND DISCUSSION

Table 1 shows no significant relationship between academic performance and distribution and retrieval/submission of the respondents. The table presents the Coefficient (r_2) (0.082005) lies in critical value between $-1 \leq 0 \geq 1$ that indicates a no correlation.

Table 1. Significant relationship between the academic performance and distribution and retrieval/submission of the respondents.

Sample Variance	N	DF	Critical Value	Coefficient (r_2)	Inter.
Academic Performance Distribution and retrieval/submission	100	98	$-1 \leq 0 \geq 1$	0.082005	**There is no significant relationship.**

@ 5% level of significance

Table 1 justifies that there is no evidence of a relationship between academic performance and distribution and retrieval/submission of the respondents in Lambayong National High School. This implies that students' academic performance does not affect the potholes in the printed module in mathematics in terms of distribution and retrieval/submission of the respondents.

Castroverde and Acala (2021) stated that the teacher encountered some difficulty in distributing and retrieving the printed module due to students did not meet the schedule in claiming and submitting printed modules. For this reason, students personally claimed and submitted their modules in school.

Table 2 shows no significant relationship between academic performance and assessment of feedbacks of the respondents. The table presents the Coefficient (r_2) (-0.10572) lies in a critical value between $-1 \leq 0 \geq 1$ that indicates a no correlation.

Table 2. Significant relationship between the academic performance and assessment of feedbacks of the respondents.

Sample Variance	n	DF	Critical Value	Coefficient (r_2)	Inter.
Academic Performance					**There is no**
	100	98	$-1 \leq 0 \geq 1$	-0.10572	**significant**
Assessment of feedbacks					**relationship.**

@ 5% level of significance

Table 2 justifies that there is no evidence of a relationship between academic performance in terms of grades and assessment of feedbacks of the respondents in Lambayong National High School. This indicates that the academic performance of the respondents does not affect the potholes in the printed module in mathematics in terms of assessment of feedbacks.

Not all students do their modules wholeheartedly (Helpline, 2020). Based on the survey, students do their modules for formality purposes where students do not have a motivation to do their modules.

Table 3 shows the respondents' feedbacks about the problems in learning mathematics printed module. Out of 100 respondents, 31 students (31%) write "s*tudent having problems with math in modular set-up, from low motivation caused by math anxiety to a poor understanding on how to apply and perform mathematical operations",* 27 students (27%) write *"The problems that I had encountered in learning Mathematics module is that I do not see much in my enjoyment answering my Mathematics module because it is too hard",* and 24 students (24%) write "*My problem I had encountered in learning mathematics module is I do not understand some of the discussion while I'm answering my mathematics module".*

The statements infer that the students are struggling to answer printed mathematics modules for they did not see their enjoyment in learning mathematics in this method. The students experienced anxiety resulting from a poor understanding of how to apply and perform mathematical operations since it is a self-learning approach.

Table 4 depicts the suggestion of the respondents about the problem they encountered in learning mathematics printed module. Thirty-four percent (34%) of the students suggested "to clear the graphics because I encountered a cloudy graphics, and the number was so small that I cannot read it", 18% suggested "lessening the paper works of students and give them time answering it. Students need more time to answer the module because it's much harder to understand it than being in a classroom", and 15% suggested "to give more examples in each problem or formula for better understanding and more details".

Table 3. Respondents feedbacks about the problem in learning mathematics printed module.

Statements	Population (n)	Percentage (%)
1. *The problems that I had encountered in learning the Mathematics module is that I do not see much in my enjoyment answering my Mathematics module because it is too hard*	27	27
2. Students *having problems with math in modular set-up, from low motivation caused by math anxiety to a poor understanding of how to apply and perform mathematical operations*	31	31
3. *The problem I had encountered in the learning mathematics module is I do noFt understand some of the discussion while I'm answering my mathematics module*	24	24

Table 4. Respondents suggestions about the problem in learning mathematics printed module.

Statements	Population (n)	Percentage (%)
1. *My suggestion is to clear the graphics because I encountered cloudy graphics, and the number was so small that I cannot read it*	34	34
2. *I suggest lessening the paper works of students and giving them time to answer it. Students need more time to answer the module because it's much harder to understand it than being in a classroom*	18	18
3. *I suggest giving more examples in each problem or formula for better understanding and more details*	15	15

This implies that the mathematics printed module had contextual and graphic errors that give students a hard time understanding and answering the module. It also caused a delay in submitting their module on time.

4. CONCLUSION

Based on the findings of the study, the following conclusion is drawn:
(i) The potholes of the printed module in mathematics in terms of distribution and retrieval cannot affect the academic performance of the students in Lambayong National High School, Lambayong Sultan Kudarat, Philippines.
(ii) The potholes of the printed module in mathematics in terms of assessment of feedbacks cannot affect the academic performance of the students in Lambayong National High School, Lambayong Sultan Kudarat, Philippines.
(iii) Thirty-one percent (31%) of the students commented that they have problems in math modular setup that can lead to low motivation, math anxiety, and poor understanding of how to apply and perform mathematical operations.
(iv) Thirty-four percent (34%) of the students suggested enhancing the quality of the module in terms of graphics, fonts, and pictures.

5. ACKNOWLEDGMENT

The achievement of this undertaking could not have been possible without the involvement and assistance of so many people who have contributed to the success of this study. Their contributions are sincerely appreciated and gratefully acknowledged. The group expresses its deep appreciation and indebtedness to Mr. Ramil Arciosa and Mrs. Marilou Sombria for their endless support, kind understanding spirit during our research presentation. Heartfelt gratitude is due to Lambayong National High School led by Mr. Haron M. Kabugatan, Principal I, and the rest of the SHS faculty and staff for warmly accommodating and allowing us to conduct our study. We also thank the organizer of EVOS 2.0, my profound gratitude for allowing me to showcase my research.

6. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. Authors confirmed that the paper was free of plagiarism.

7. REFERENCES

Castroverde, F., & Acala, M. (2021). Modular distance learning modality: Challenges of teachers in teaching amid the Covid-19 pandemic. *International Journal of Research Studies in Education*, *10*(8), 7-15.

Lim, E. J. (2016). Effectiveness of modular instruction in word problem solving of BEED students. *IOSR Journal of Mathematics (IOSR-JM)*, *12*(5), 59-65.

Sintema, E. J. (2020). Effect of COVID-19 on the performance of grade 12 students: Implications for STEM education. *Eurasia Journal of Mathematics, Science and Technology Education*, *16*(7), em1851.