

Modular Printed Learning Delivery and Academic Performance of Learners in Far – Flung Schools: Basis for an Action Plan

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Abstract: This study examined the modular printed learning delivery and the academic performance of learners in far-flung schools in the Subic District, Schools Division of Zambales, as perceived by 174 learning facilitators. Using a quantitative descriptive research design, the study assessed the profile of learning facilitators, the extent of modular printed learning delivery, and learners' academic performance. The findings revealed that the majority of learning facilitators were female, aged 30 to 39 years old, high school graduates, and had a monthly family income of ₱19,999 and below. Despite limited educational attainment and financial resources, these learning facilitators played an essential role in supporting learners' educational needs through the modular learning modality. Results further showed that modular printed learning delivery was perceived as fully delivered in terms of the availability of learning materials, required learning outputs, teacher support, and learning facilitator support. This indicates the effective implementation of the modular learning program in far-flung schools. In terms of academic performance, learners obtained Satisfactory (80-84) first-quarter grades and improved to Very Satisfactory (85-89) in the second quarter, suggesting positive learning progress. Statistical analysis also revealed significant differences in modular printed learning delivery when grouped according to the learning facilitators' profile variables, leading to the rejection of the null hypothesis. Moreover, a positive low significant relationship existed between modular printed learning delivery and first-quarter grades, while a positive very low and non-significant relationship was found with second-quarter grades. Overall, the study concludes that effective modular printed learning delivery contributes to learner achievement and highlights the importance of sustaining support systems to further improve academic performance in far-flung schools.

Keywords: *Modular Printed Learning Delivery, Academic Performance, Learners, Learning Facilitators, Far-Flung Schools.*

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I. INTRODUCTION

The COVID-19 pandemic disrupted education worldwide, forcing schools to adopt alternative learning delivery modalities. In many remote and disadvantaged communities, limited access to technology and internet connectivity made online learning difficult. As a result, Modular Printed Learning Delivery (MPLD) became a practical approach to ensure the continuity of education by providing learners with printed modules that could be accomplished at home with the support of teachers, parents, and learning facilitators.

Despite its widespread use, concerns remain regarding the effectiveness of modular learning in promoting academic achievement. International studies have reported learning gaps, reduced learner engagement, and challenges in accessing educational support during distance learning (UNESCO, 2020; Reimers & Schleicher, 2020). Research

also highlights that parental involvement and teacher support play significant roles in improving learners' academic performance in modular learning environments (Daniel, 2020; Azubuike, Adegboye, & Quadri, 2021). Furthermore, Hammerstein et al. (2021) emphasized that strong collaboration among teachers, parents, and learning facilitators contributes to better learning outcomes despite educational disruptions.

This study aims to examine the relationship between the implementation of Modular Printed Learning Delivery and the academic performance of learners in far-flung schools. Its findings may help school administrators, teachers, and policymakers improve modular learning practices and design interventions that enhance learner achievement. Moreover, the study may contribute to the development of effective educational strategies that promote equitable access to quality education for learners in geographically isolated communities.

II. METHODS

➤ *Research Design*

This study employed the quantitative descriptive research design to determine the profile of learning facilitators, the implementation of modular printed learning delivery, and the academic performance of learners in far-flung schools in the Subic District, Schools Division of Zambales during School Year 2021–2022. The quantitative approach was utilized because it involves the collection and analysis of numerical data to measure and describe variables objectively. Meanwhile, the descriptive method was appropriate as it aimed to systematically describe the characteristics, conditions, and perceptions of the respondents without manipulating any variables. Data gathered from the respondents were classified, organized, summarized, and analyzed using statistical tools such as frequency counts, percentages, and weighted means. Since the study focused on describing existing conditions and determining the status of modular printed learning delivery and learners' academic performance based on the responses of the entire population, the quantitative descriptive research design was considered the most suitable method for achieving the objectives of the study.

➤ *Respondents and Location*

The respondents of the study were the 174 learning facilitators in Cawag Elementary School and Cawag Resettlement Elementary School, Subic District, Schools Division of Zambales for School Year 2021–2022.

➤ *Research Instrument*

This study utilized a researcher-made questionnaire as the primary instrument for gathering the necessary data. A questionnaire is a structured data-gathering tool that enables researchers to collect information efficiently, systematically, and economically from a large number of respondents. It was considered the most appropriate instrument because it allowed the researcher to obtain relevant information on modular printed learning delivery and the academic performance of learners in far-flung schools in the Subic District, Schools Division of Zambales during School Year 2021–2022.

The questionnaire consisted of three (3) parts. Part I gathered the profile of the learning facilitators in terms of age, sex, highest educational attainment, and monthly family income. Part II determined the level of implementation of modular printed learning delivery in far-flung schools as perceived by learning facilitators, focusing on the availability of learning materials, required learning outputs, support of teachers, and support of learning facilitators. Part III collected data on the academic performance of learners based on their first and second quarterly grades. The instrument was designed to generate reliable and organized data needed to achieve the objectives of the study.

➤ *Data Gatherings*

The researcher secured permission from the Schools Division Superintendent of DepEd-Zambales, the Coordinating Principal of Subic District, and the school heads

of Cawag Elementary School and Cawag Resettlement Elementary School before conducting the study. Upon approval, the researcher coordinated with the Grade 1 to Grade 3 teachers for the distribution and collection of the questionnaires.

Prior to data collection, informed consent forms were provided to the learning facilitators to explain the purpose of the study, ensure voluntary participation, and protect the confidentiality of their responses. Only those who signed the consent form were included as respondents in the study.

To ensure the health and safety of all participants during the COVID-19 pandemic, the researcher worked closely with the school heads and teachers in administering the questionnaires. This approach facilitated the efficient distribution and retrieval of the research instruments while minimizing direct contact. After all completed questionnaires were collected, the data were organized and encoded in Microsoft Excel. The frequency counts and tabulated data were then submitted to the resident statistician for statistical analysis using the Statistical Package for the Social Sciences (SPSS). The results were subsequently interpreted by the researcher with the guidance of the thesis adviser and in consultation with the resident statistician to ensure the accuracy and reliability of the findings.

➤ *Data Analysis*

The study utilized various statistical tools to analyze, interpret, and test the hypotheses based on the data gathered from the respondents. Frequency Count and Percentage Distribution were used to describe the profile of the respondents by determining the number and percentage of responses in each category. Mean was employed to determine the level of modular printed learning delivery and the academic performance of learners in far-flung schools. To determine whether the data followed a normal distribution, the Kolmogorov-Smirnov Test and Shapiro-Wilk Test were applied. The results of these normality tests served as the basis for selecting the most appropriate statistical tools for further analysis. To determine whether significant differences existed in the perceived modular printed learning delivery when learning facilitators were grouped according to their profile variables, One-Way Analysis of Variance (ANOVA) or Kruskal-Wallis Test was used. Finally, Pearson Product Moment Correlation Coefficient or Spearman's Rho was employed to determine the existence and significance of the relationship between modular printed learning delivery as perceived by learning facilitators and the academic performance of learners in far-flung schools. These statistical tools enabled the researcher to accurately analyze the data and arrive at valid conclusions regarding the objectives of the study.

III. RESULTS AND DISCUSSION

This chapter presents the findings of the study on the profile of learning facilitators, the status of modular printed learning delivery in far-flung schools, the academic performance of learners, and the significant differences and relationships among the variables.

➤ *Profile of Learning Facilitators*

Table 1 The Profile Data Describe the Learning Facilitators' Age, Sex, Educational Attainment, and Monthly Family Income in Implementing Modular Printed Learning Delivery (MPLD).

Profile Variable	Category	Frequency	Percentage
Age	30-39 years old	122	70.11%
	20-29 years old	23	13.22%
	40-49 years old	16	9.20%
	19 years old and below	13	7.47%
Sex	Female	157	90.23%
	Male	17	9.77%
Highest Educational Attainment	High School Graduate	135	77.59%
	College Graduate	21	12.09%
	Elementary Graduate	18	10.34%
Monthly Family Income	₱19,999 and below	140	80.46%
	₱20,000-₱39,999	34	19.54%

Most of the learning facilitators were 30-39 years old (70.11%), female (90.23%), high school graduates (77.59%), and belonged to families with a monthly income of ₱19,999 and below (80.46%). This indicates that most learning

facilitators came from low-income households and possessed secondary-level educational backgrounds.

➤ *Level of Implementation of Modular Printed Learning Delivery*

Table 2 Presents the Level of Modular Printed Learning Delivery (MPLD) Implementation in Far-Flung Schools Based on Learning Materials, Outputs, Teacher Support, and Learning Facilitator Support.

Indicator	General Mean	Interpretation
Availability of Learning Materials	3.44	Fully Delivered
Required Learning Outputs	3.45	Fully Delivered
Support of Teachers	3.46	Fully Delivered
Support of Learning Facilitators	3.45	Fully Delivered
Overall Mean	3.45	Fully Delivered

The learning facilitators perceived that the modular printed learning delivery in far-flung schools was Fully Delivered in all aspects. Among the indicators, Support of Teachers (3.46) obtained the highest mean, indicating strong

teacher involvement in providing guidance, feedback, and assistance during modular learning.

➤ *Academic Performance of Learners*

Table 3 Presents Learners' Academic Performance Based on their First and Second Quarter Mean Grades.

Quarter	Mean Grade	Interpretation
First Quarter	83.87	Satisfactory
Second Quarter	85.68	Very Satisfactory

Learners achieved a Satisfactory level of performance during the first quarter with a mean grade of 83.87. Their performance improved during the second quarter, obtaining a mean grade of 85.68, which is interpreted as Very

Satisfactory. This suggests a positive improvement in learners' academic achievement over time.

➤ *Significance of Modular Printed Learning Delivery*

Table 4 Presents the Significant Differences in Modular Printed Learning Delivery (MPLD) Based on Learning Facilitators' Age, Sex, Educational Attainment, and Family Income.

Profile Variable	Result	Decision
Age	Significant Difference	Reject Ho
Sex	Significant Difference	Reject Ho
Highest Educational Attainment	Significant Difference	Reject Ho
Monthly Family Income	Significant Difference	Reject Ho

The results revealed significant differences in the perceived modular printed learning delivery when learning facilitators were grouped according to age, sex, highest educational attainment, and monthly family income.

Therefore, the null hypothesis was rejected. This means that respondents' perceptions varied depending on their demographic characteristics.

➤ *Relationship of Modular Printed Learning Delivery and Academic Performance of Learners*

Table 5 Presents the Relationship Between Modular Printed Learning Delivery (MPLD) and Learners' Academic Performance Based on their First and Second Quarter Grades.

Academic Performance	Correlation	Interpretation	Decision
First Quarterly Grades	0.428-0.444	Positive Low Correlation	Significant
Second Quarterly Grades	0.030-0.041	Positive Very Low Correlation	Not Significant

The findings showed a positive low and significant relationship between modular printed learning delivery and learners' first-quarter grades, indicating that better implementation of modular learning was associated with better academic performance. However, a positive very low and non-significant relationship was found for the second-quarter grades, suggesting that modular learning delivery had minimal influence on learners' academic performance during the second quarter.

IV. CONCLUSION AND RECOMMENDATION

➤ *Conclusions*

Based on the findings of the study, it was concluded that most of the learning facilitators were female adults aged 30–39 years old, high school graduates, and belonged to low-income families. The modular printed learning delivery in far-flung schools was found to be fully delivered in terms of the availability of learning materials, required learning outputs, support of teachers, and support of learning facilitators. The learners demonstrated satisfactory academic performance during the first quarter and improved to a very satisfactory level during the second quarter. Furthermore, significant differences were found in the perceptions of learning facilitators regarding modular printed learning delivery when grouped according to age, sex, highest educational attainment, and monthly family income. The study also revealed a significant positive relationship between modular printed learning delivery and learners' first-quarter academic performance, indicating that effective implementation of modular learning contributed to better learner outcomes. However, no significant relationship was found between modular printed learning delivery and second-quarter academic performance. Overall, the findings highlight the important role of teacher support and the active involvement of learning facilitators in the successful implementation of modular learning and in promoting learners' academic achievement in far-flung schools.

➤ *Recommendations*

Based on the conclusions of the study, it is recommended that school administrators continue to strengthen modular learning programs by ensuring the timely distribution and availability of learning materials for learners in far-flung schools. Teachers should maintain regular communication, monitoring, and feedback mechanisms to provide continuous support to both learners and learning facilitators. Likewise, capacity-building activities, orientations, and training programs should be conducted to enhance the knowledge and skills of learning facilitators in assisting learners with their academic tasks at home. Additional academic support programs and intervention

activities should also be implemented to sustain and further improve learners' academic performance. Furthermore, strong collaboration among schools, teachers, parents, learning facilitators, and the community should be strengthened to ensure the effective delivery of learning and the achievement of educational goals. Finally, future researchers are encouraged to investigate other factors that may influence learners' academic performance, such as study habits, motivation, learning environment, and parental involvement, to provide a broader understanding of learner achievement in modular learning settings.

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