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Quality and Implementation of Social Science Printed Modular Distance Learning in Public Senior High Schools

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Abstract. Given the adverse effects that the pandemic would have on learning and education in general, educational institutions were forced to switch to a new format where distance learning became necessary for learners and educators worldwide. In the Philippines, the Department of Education (DepEd) responded by providing comprehensive and inclusive distance learning modules for continuous learning. Thus, this descriptive study determined the level of quality and extent of implementation of Printed Modular Distance Learning (PMDL) as assessed by the social science teachers when grouped according to educational attainment, grade level taught, and schools division. Through a survey instrument, this study was administered to 105 social science senior high school teachers in the selected schools divisions of northern Negros Occidental. In analyzing the data, descriptive analysis was employed. The general findings of the study unveiled that both the quality and implementation of PMDL excellently adhere to the national standards set by the Department of Education. This signifies that teachers and stakeholders properly implemented and actively participated in the Printed Modular Distance Learning. Findings suggest a comprehensive continuity plan to support teachers in continuing the high quality and implementation of PMDL in public senior high schools.

Keywords. Social sciences, Modular Distance Learning, public senior high school teachers, quantitative, Philippines

1. Introduction

Despite the pandemic, different remote options and solutions have been implemented by countries to pursue educational continuity (UNECLAC, 2020). One of these solutions is printed modular distance learning (Dangle & Sumaoang, 2020). This method has been used in Australia and the United States (Valencia, 2020) and is one of the most popular teaching-learning approaches in the Asian region (Sejpal, 2013).

Modular distance learning is a form of individualized instruction allowing learners to utilize self-learning modules (SLMs) either in print or digital format/electronic copy that is appropriate in the learner's setting and a variety of learning tools or study materials (Llego, 2020). Various studies have proven that modular distance learning provides more flexibility to distance teaching mode and learners (Sejpal, 2013). Moreover, the findings of Ali et al. (2010) reveal that modular learning is effective for students who are provided with the opportunities of learning at their own pace according to their ability level and needs.

In the Philippines, the Department of Education responded by implementing the Basic Education Learning Continuity Plan (BE-LCP) (Labrado et al., 2020), paving the way for the implementation of modular distance learning to ensure continuity of education (Dangle & Sumaoang, 2020). Fortunately, the Department of Education (DepEd) has previously implemented modular learning as an alternative delivery mode (ADM), for it has always been the goal of the Philippine educational system to provide quality and accessible education for all (Nayad, 2021 cited in Talimodao & Madrigal, 2021).

Previous studies have assessed the quality, implementation, and challenges of printed modular distance learning in public elementary schools. In Talimodao and Madrigal (2021), it was found that Philippine elementary schools have excellently standardized PMDL using teachers' demographics and initial implementation challenges of modular distance learning (Labrado et al., 2020). However, no studies have focused on the level of quality and extent of implementation of printed modular distance learning in the context of public senior high schools, specifically in the specialized social science area during the establishment of the new normal education. This is the void that this research aimed to fill.

This study determined the level of quality and extent of implementation of printed modular distance learning as assessed by social science senior high school teachers when grouped to educational attainment, schools division, and grade level taught in the selected schools divisions in northern Negros Occidental during the school year 2021-2022. The study's findings served as a foundation for the development of a proposed PMDL implementation continuity plan aligned with the objectives of Learning Delivery Modalities 1 (LDM-1) set under the Basic Education Learning Continuity Plan (BE-LCP) of the Department of Education in order to provide professional support for teachers on the implementation of PMDL in public senior high schools.

2. Framework of the Study

This study theorizes that well-prepared, organized, and properly implemented modules promote better learning. In this context, this study is mainly anchored on Formative Evaluation Theory and the Developmental Evaluation Theory by Scriven (1967) and Patton (2011). Clark (2010) explained that evaluation of materials helps improve the learning materials and forms the basis for proper learning intervention to help the learners master the required skills and knowledge. Thus, in this study, input from social science senior high school teachers about the quality of printed modules in social science used during distance learning instruction is vital information in evaluating the materials for continuous improvement (Yuliana & Sadjati, 2013).

On the other hand, the Developmental Evaluation theory emphasizes that one of the strategies to measure the effect of a program is to generate feedback and learning. The developmental evaluation focuses on adaptive development, which means making innovations from the current modality through feedback (Patton, 2016). This enables teachers and stakeholders to incorporate the factors impacting the program and use feedback to improve modality (Laycock et al., 2019).

In particular, Talimodao and Madrigal (2021) found that the quality and implementation of PMDL, regardless of teachers' educational attainment, are standardized. Moreover, regardless of teachers' grade level taught, they equally set up mechanisms to fulfill monitoring and implement modular distance learning (Chan et al., 2021). On the other hand, utilizing schools division as a demographics significantly contributed to the findings that there are still indicators in the quality of PMDL that need addressing. To discover the shortcomings in printed modules, formative evaluation should be conducted throughout implementation

(Yuliana & Sadjati, 2013) and to improve learning (Frey, 2018). The study also responds to the recommendations of Hamweete (2012) that in order to ensure and maintain high standards, PMDL must be continuously monitored and improved.

3. Methodology

This study utilized a quantitative descriptive research design to measure the level of quality and extent of implementation of Printed Modular Distance Learning (PMDL) as assessed by the social science teachers when grouped according to educational attainment, grade level taught, and schools division. The respondents of this study were the 105 senior high school social science teachers in the selected schools divisions in northern Negros Occidental during the school year 2021-2022. The total number of respondents was used as the population to provide all social science senior high school teachers an equal opportunity to participate in the study.

In assessing the quality and implementation, an adapted researcher-made questionnaire from Talimodao and Madrigal (2021) was employed. The indicators on the ALS-EST Handbook for Implementers, DepEd Order 1 series of 2021 and the Non-negotiable Minimum Requirements for Distance Learning Modalities of Dep-Ed were used as a guide: 1- Very Poor, 2- Poor, 3- Good, and 4 – Excellent. Mean and Standard Deviation were used in the data analysis to assess the level of quality and extent of PMDL implementation. Finally, to ensure the study's ethical soundness, the principles of respect for persons, beneficence, and justice were established, especially on privacy, confidentiality, and potential risks.

4. Results and Discussion

Level of Quality of Printed Modular Distance Learning

Table 1 presents the level of quality of printed modular distance learning in public senior high schools in selected schools divisions in northern Negros Occidental. As a whole, the level of quality of printed modular distance learning (M=3.33, SD=0.45) is excellent. Likewise, the level of quality of PMDL yielded an excellent rating with the rest of the population subgroups. When compared to their counterparts, teachers who have bachelor's degrees (M=3.35, SD=0.44), teaching in schools division B (M=3.55, SD=0.45), and handling 12th-grade students (M=3.34, SD=0.45) have the highest perceptions of quality of PMDL. On the other hand, teachers who have graduate degrees (M=3.31, SD=0.46), teaching in schools division A (M=3.17, SD=0.39), and handling 11th-grade students (M=3.33, SD=0.46) perceived lower quality of PMDL. Thus, they may be provided with PMDL Implementation Continuity Plan to strengthen or sustain the quality and implementation of PMDL relative to the teacher's setting.

Table 1. Level of Quality of Printed Modular Distance Learning

Variable	Indicators based on ALS– ESTH for Implementers			Indicators based on DepEd Order 1 series 2021			Quality		
	M	SD	Int	M	SD	Int	M	SD	Int
Education									
Bachelor's	3.2	0.4	Excellent	3.3	0.4	Excellent	3.3	0.4	Excellent
Master's/Doctorate	3.1	0.4	Good	3.3	0.4	Excellent	3.3	0.4	Excellent

Division									
Division A	3.0 8	0.4 3	Good	3.2 0	0.3 9	Good	3.1 7	0.3 9	Good
Division B	3.5 1	0.4 7	Excellent	3.5 6	0.4 5	Excellent	3.5 5	0.4 5	Excellent
Division C	3.1 6	0.4 7	Good	3.4 1	0.5 0	Excellent	3.3 5	0.4 7	Excellent
Division D	3.1 7	0.5 0	Good	3.4 2	0.4 9	Excellent	3.3 6	0.4 6	Excellent
Grade Level Taught									
Grade 11	3.2 0	0.4 9	Good	3.3 7	0.4 8	Excellent	3.3 3	0.4 6	Excellent
Grade 12	3.2 2	0.4 7	Good	3.3 8	0.4 6	Excellent	3.3 4	0.4 5	Excellent
Total	3.2 1	0.4 8	Good	3.3 7	0.4 7	Excellent	3.3 3	0.4 5	Excellent

Specifically, the findings of the study reveal that certain indicators in the ALS-EST Handbook for Implementers gained an adequate level of quality of PMDL. This signifies that there are indicators in evaluation that teachers find to be low in quality. Among these are that some modules used this school year tend to be less interactive and that some of the visual elements (texts, pictures, graphs, illustrations, etc.) are not readable. This indicates the need for teachers to facilitate learning at a distance to aid the shortcomings of PMDL.

On the other hand, the findings show the excellent quality of PMDL based on the DepEd Order 1 series of 202, implying that teachers consider PMDL to adhere to DepEd's national standards excellently. Furthermore, the results indicate that PMDL covered the targeted Most Essential Learning Competencies (MELCs) by aligning the learning objectives intended for the quarter as perceived by the teachers. It further implies that the Department of Education follows the standardized indicators to improve the level of quality of PMDL. These findings demonstrate that the quality of PMDL is consistent with DepEd's national standards (Talimodao & Madrigal, 2021).

This study further affirms Valencia (2020) that the quality of education students get depends on the quality of instruction they are given. The findings also respond to the recommendations of Hamweete (2012) that in order to ensure and maintain high standards, PMDL must be continuously monitored and improved. Evaluating PMDL is important to determine and improve the reach and effectiveness of the distance learning modality used as instruction (UNICEF, 2020).

Educational attainment. Based on the demographics of the respondents, the quality of PMDL is excellent in terms of the educational attainment of the teachers. This implies that teachers' educational attainment does not influence the perception of the quality of PMDL. The findings further denote that the senior high school teachers consider PMDL to adhere excellently to the principles set by DepEd transcribed on the Alternative Learning System–Education and Skills Training (ALS-EST) Handbook for Implementers and DepEd Order 1 series of 2021. This proves that when grouped according to educational attainment, PMDL is standardized in terms of its quality.

Thus, in terms of the highest educational attainment of the teachers, the results on the quality of PMDL strengthen the findings of Talimodao and Madrigal (2021) that the quality of

PMDL is consistently excellent regardless of the educational attainment of teachers. These also strengthen the findings of Emotin-Bucjan (2011) on the evaluation of module quality, which revealed that despite disparities in educational qualifications, teachers' perceptions are relatively the same.

Schools division. The quality of PMDL is excellent in terms of teachers' schools division. This means that regardless of the schools division to where the teacher is assigned, the quality of PMDL is consistently excellent. This signifies that there are senior high school teachers who perceive PMDL to adequately adhere to the principles set by the Department of Education transcribed on the Alternative Learning System – Education and Skills Training Handbook for Implementers and DepEd Order 1 Series of 2021.

The findings denote that a lower level of quality of PMDL in a selected teacher's schools division suggests that the modality could be improved further and re-evaluated. On the other hand, the excellent level of quality in other schools divisions implies that they may present a baseline to demonstrate how they assessed and ensured the quality of PMDL. Hence, the findings imply that regardless of the teacher's schools division, the quality of instruction given through PMDL is excellent in general.

The findings of the study resonate with the results of Whitehurst et al. (2013) that there are differences among schools divisions in their practices and policy, but it is statistically insignificant in quality outcomes. This is due to a broadly shared mission, vision, and goals engaging students, teachers, and stakeholders for strategic planning (Berson et al., 2015). The study also responds to the recommendations of Talimodao and Madrigal (2021) to replicate their study in other schools division in the Philippines to benchmark the quality of PMDL.

Grade level taught. The quality of PMDL is excellent in terms of teachers' grade level taught. This means that regardless of the grade level the teachers are handling, the quality of PMDL is consistently excellent. This signifies that the senior high school teachers perceive PMDL to excellently adhere to DepEd's national standards as transcribed on the Alternative Learning System–Education and Skills Training (ALS-EST) Handbook for Implementers and DepEd Order 1 series of 2021.

Descriptively, the findings imply that grade level teachers may have different perspectives on the quality of PMDL, but whether teachers are handling 11th-grade or 12th-grade students, the learners receive the same quality of learning through PMDL. More so, the findings signify that when grouped according to teachers' grade level taught, PMDL is standardized in public senior high schools. The findings of the study strengthen the comparative study of Guo (2020), indicating the noticeable grade level differences only in teacher feedback when compared in terms of quality of instruction and noting the study by Malik (2012) that there is a significant difference in students' achievement when utilizing modules.

Extent of Implementation of Printed Modular Distance Learning

Table 2 presents the extent of implementation of PMDL in selected schools divisions in northern Negros Occidental. As a whole ($M=3.60$, $SD=0.36$), the extent of implementation was rated excellent. The overall rating indicates that DepEd has efficiently standardized the implementation of PMDL. The results further exhibit that the extent of implementation yielded an excellent rating under the highest educational attainment, schools division, and grade level taught. When compared to their counterparts, teachers with bachelor's degrees ($M=3.66$, $SD=0.28$), teaching in schools division D ($M=3.67$, $SD=0.43$), and handling 11th-grade students ($M=3.63$, $SD=0.32$) have the highest perceptions in terms of PMDL implementation. Similarly, teachers with graduate degrees ($M=3.54$, $SD=0.42$), teaching in schools division C

(M=3.55, SD=0.36), and handling 12th-grade students (M=3.55, SD=0.42) may be provided with implementation continuity plan to support teachers in delivering and implementing PMDL in the succeeding school years to come.

Table 2. Extent of Implementation of Printed Modular Distance Learning

Variable	Indicators based on ALS- ESTH for Implementers			Indicators based on NMR for Distance Learning Modalities			Implementation		
	M	SD	Int	M	SD	Int	M	SD	Int
Education									
Bachelor's	3.6	0.3	Alwa	3.71	0.30	Always	3.6	0.2	Alwa
	3	1	ys				6	8	ys
Master's/Doctorate	3.4	0.4	Alwa	3.63	0.45	Always	3.5	0.4	Alwa
	8	5	ys				4	2	ys
Division									
Division A	3.5	0.3	Alwa	3.63	0.30	Always	3.5	0.3	Alwa
	2	5	ys				7	1	ys
Division B	3.5	0.4	Alwa	3.72	0.34	Always	3.6	0.3	Alwa
	8	2	ys				4	6	ys
Division C	3.5	0.3	Alwa	3.61	0.47	Always	3.5	0.3	Alwa
	1	8	ys				5	6	ys
Division D	3.6	0.4	Alwa	3.76	0.42	Always	3.6	0.4	Alwa
	1	5	ys				7	3	ys
Grade Level Taught									
Grade 11	3.5	0.3	Alwa	3.70	0.34	Always	3.6	0.3	Alwa
	8	6	ys				3	2	ys
Grade 12	3.4	0.4	Alwa	3.62	0.44	Always	3.5	0.4	Alwa
	9	5	ys				5	2	ys
Total	3.5	0.3	Alway	3.67	0.38	Always	3.6	0.3	Alway
	5	9	s				0	6	s

Significantly, the results attest to the findings of Talimodao and Madrigal (2021) that DepEd successfully standardized the implementation of PMDL. The findings also prove that during the new normal education, teachers play an active role in implementing modules (Valencia, 2020). Likewise, they could engage and interact with their students, provide assignments, and provide timely feedback (UNICEF, 2020). Similarly, findings reveal that during the implementation of modular distance learning, teachers have massive roles in planning and adapting educational processes, such as modifying techniques and curricula, designing resources, and diversifying the media (UNECLAC, 2020).

Particularly, the findings of the study reveal that the teachers perceive the implementation of PMDL as excellent compliance based on the indicators of the ALS-EST Handbook for Implementers. This proves teachers' excellent management to deliver education in the senior high schools through PMDL. Among the indicators for the implementation of PMDL, teachers' regular documentation of modules distribution and the schools' numerous measures to ensure the physical state and proper storage of educational materials were perceived

as the highest extent of implementation. This denotes the collaborative efforts of the teacher and school to work hand-in-hand and properly deliver PMDL to every learner.

Additionally, findings show that teachers perceive the implementation of the PMDL as excellent per standards of the Non-negotiable Minimum Requirements for Distance Learning Modalities. Among the indicators for the implementation of PMDL, schools' orientation to guide parents, learners, and teachers was perceived as the highest extent of implementation. This implies that the senior high schools strive to reach out to their stakeholders to deliver and implement printed modular distance learning. This also affirms the study of Labrado et al. (2020) that the success of the selected distance modality is largely dependent on the teachers, parents, and students.

Educational attainment. The extent of implementation of PMDL is excellent in terms of the educational attainment of teachers. This finding implies that regardless of teachers' educational attainment, the extent of implementation of PMDL is consistently excellent. Moreover, data signify that teachers, regardless of educational attainment, have actively participated in designing, implementing, and monitoring student performance. The findings also show that teachers are all equally dedicated to standardizing the implementation of PMDL in their respective contexts regardless of their highest educational attainment.

The findings of the study strengthen the results of Talimodao and Madrigal (2021) that teachers are all equally dedicated to standardizing the implementation of PMDL in their particular contexts, regardless of their highest educational attainment. The results also affirm prior literature, such as the study of Ladd and Sorensen (2015), that teachers with post-graduate degrees are no more effective than those without.

Schools division. The extent of implementation of PMDL is excellent in terms of teachers' schools division. This signifies that the extent of implementation of PMDL is consistently excellent when grouped according to the schools division. The findings indicate that regardless of the teachers' assigned schools division, PMDL was standardized. This shows that teachers provide professional learning opportunities, identify, and procure standards-based curriculum materials based on national principles set under DepEd despite the difference in schools division assignments. This demonstrates teachers' dedication to adhering to national standards when implementing PDML.

School divisions and districts define the conditions under which schools operate and, as such, can support or undermine school success and student success (Chenoweth, 2015). However, when it comes to the extent of implementation of PMDL, the schools division has the least influence. This study proves that regardless of the schools division assignment, teachers perceived the implementation of PMDL to comply with the national principles set by the department excellently.

Grade level taught. The extent of implementation of PMDL is excellent in terms of teachers' grade level taught. This means that regardless of the grade level the teachers are handling, the extent of implementation of PMDL is consistently excellent. Overall, the findings reveal the excellent compliance in the implementation of PMDL to national standards transcribed on the Alternative Learning System–Education and Skills Training (ALS-EST) and the Non-negotiable Minimum Requirements for Distance Learning Modalities.

Since Grade 11 and 12 teachers utilized the same standardized PMDL, its continuous application improves the overall quality of instruction received by students regardless of the grade level they taught. This implies that whether teachers are handling different year levels,

they still implement PMDL extensively. This shows the commitment among teachers across year levels in adhering to the national standards in implementing PDML. This also denotes that PMDL extends beyond the school level, wherein the standard of implementation by 11th-grade teachers is similar to that of 12th-grade teachers and vice versa.

The excellent extent of implementation of PMDL in every grade level confirms the findings of Lim (2016) that using modules is an effective teaching approach either as a distance learning or face-to-face instruction. Overall, it was perceived that despite the different grade levels the teachers are handling, they all set up mechanisms to fulfill monitoring and implement modular distance learning (Chan et al., 2021).

5. Conclusion

In the light of findings, the study concludes that the quality and implementation of printed modular distance learning, as perceived by social science senior high school teachers, excellently adhere and comply with the standard operating procedures set by the Department of Education. This indicates the continuing effort of the Department to standardize and counter educational disruption during the pandemic. The success of PMDL can be attributed to the students, teachers, and stakeholders for being equally dedicated to standardizing the quality and implementation of PMDL. Elaborately, this shows the collaborative efforts and initiative of the teachers and schools to work collectively, facilitate learning, and properly deliver printed modular distance learning to every learner. Nevertheless, the study is yet to discover the quality and implementation of PMDL in the context of the learners who are the end-users of the modality and the several variables that are not discussed in the study. Through this study, public senior high schools may integrate a continuity plan to sustain the quality and implementation of PMDL, whether in a distance learning modality or face-to-face setup.

6. Recommendations

The researcher highly recommends that future researchers conduct additional studies on the quality and implementation of printed modular distance learning, focusing on the context of the learners who are the end-users of the modality. They may also explore other demographics not covered in this study and focus on the implementation of PMDL in various levels of education.

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