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Managing Modular Instruction and Students' Learning Outcomes

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Abstract

This study was conducted to determine the level of management of modular instruction in relation to the student's learning outcomes. The study was conducted among 31 teachers, 12 school heads, 55 parents, and 191 Grade 10 students in Paquito S. Yu Memorial National High School of Lower Timonan, Dulop National High School of Dulop, Dumingag National High School, all of Dumingag Zamboanga del Sur during the School Year 2021-2022. This study used the quantitative-correlational research design. The descriptive statistics included the use of weighted average mean, standard deviation, frequency and percentage distribution; and inferential statistic were done using Kruskal-Wallis test, Spearman-rho correlation and t-test of r using SPSS and online data analysis calculators. The findings revealed that the respondent schools are highly equipped with educational technology to support modular instruction, have modules downloadable through the DepEd websites. The schools have sufficient financial support and material resources and it is properly utilized to sustain the massive reproduction of Self-Learning Modules (SLMs). Teachers were highly trained to manage modular instruction including the preparation of the contents, printing, distribution and assessment. They were also provided with adequate trainings to enrich their content knowledge with integration of educational technology. The contents of the self-learning modules were not only limited to the minimum essential learning competencies, rather it is enriched with in-depth discussions of concepts, visual illustrations, links for demonstrations and short videos. Moreover, the study concluded that the four groups of participants have similar perceptions on the level of management of modular instruction. Most of the student participants have satisfactorily achieved the minimum essential learning competencies in their English subject during the second quarter. The empirical evidence pointed out that even if the schools have highly evident provisions of technology and highly trained teachers, the students' learning outcomes may not be very impressive. Finally, the study recommends that the Department of Education should allocate an additional budget for modular distance learning modalities; provide teachers with laptops, ensure reliable internet connectivity, provide assistance to teachers, design enhancement activities to improve students' learning outcomes; and encourage parents to support their children. Future researches should focus on the effect of modular instruction on higher-order thinking skills.

Keywords: managing modular instruction, students' learning outcomes, research methodology, Kruskal-Wallis

1. Introduction

The Department of Education issued DepEd Order No.12 series of 2020 to establish new learning delivery modalities in all levels contained in the Learning Continuity Plan (LCP) for 2020–2021.

The alternate modalities of delivering learning were designed to reach all learners, no matter where they are. Distances learning, blended learning, and home-schooling are examples of LDMs. The Department of Education (DepEd) performed a Learning Enrollment and Survey Form (LESF) on school opening (Department of Education, 2020). Self-Learning Modules (SLM) are extremely convenient for the majority of ordinary Filipino students. It was also the chosen learning system of most parents and guardians. SLM is based on the Department of Education's key learning competencies (MELCS).

Print or digital materials can be used in modular learning. Because most students lack access to technology, this is the Department of Education's remote learning program's backbone (Education of Education, 2020). Problems and challenges arise because schools must provide quality instruction. Inadequate technical equipment (Alvarez, 2020) and an inability to incorporate sociocultural factors (Karsenti & Collin, 2012) can hamper technological adoption.

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In the implementation of the modular distance learning, some teachers their expressed concerns especially on the technical elements, preparedness of the teachers in the preparation of the modular instruction, the printed modules itself, support of the school heads as well as the learning of the students through the utilization of printed modules. Although teachers may have their own laptops, but the internet connection posed a significant concern. Malaluan (2020) noted that of the 87 percent of teachers surveyed have their own laptops, but only 41 percent of the teachers have access to internet connection.

The paradigm shift in the instructional modalities have also left some teachers inadequately prepared for the modular instruction. The modules provided by the DepEd needs to be localized and enhanced by the local teachers, which added burden to them aside from the fact that they need to prepare self-learning activity sheets. The teachers also observed the alarming results of the students' learning outcomes. These observations have opted the researcher to investigate the management of modular instruction and how the learning outcomes of the students were related.

1.1. Objective of the Study

It was the primary goal of the study to determine the level of management of modular instruction in relation to the student's learning outcomes. Specifically, the research dealt with the level of management of modular instruction as perceived by the school heads, parents, students, and teachers themselves; level of learning outcomes of the students; determine if there is a significant difference among the teachers, parents, students and teachers' perceptions of the level of management of modular instruction delivery; and test if there is a significant relationship between the level of management of how modular instruction is given and how much students learn.

2. Literature Review

2.1. Research Design

The essential data and information for accomplishing the goals of the study were obtained through utilizing the quantitative-comparative-correlation research design. The quantitative design was applied in providing the needed information relative to modular instruction management from the perspectives of the school heads, parents, students, and teachers. Further, there was comparison made when the research determined the significant difference of the perceptions of the groups of participants. The correlational design, on the other hand, was applied in testing the inferential question if there was significant relationship between the modular instruction management and the students' learning outcomes.

2.2. Research Setting

This study was conducted in Paquito S. Yu Memorial National High School of Lower Timonan, Dulop National High School of Dulop, Dumingag National High School, and all of Dumingag Zamboanga del Sur during the school year 2021–2022. All schools are accessible by land transportation vehicles.

The Paquito S. Yu Memorial National High of Lower Timonan is about 7 km from the municipal center of Dumingag and can be reached by riding the "Bao-bao" or by single motorcycle.

Dulop National High School is situated in the farthest barangay of Dumingag municipality near the Siayan boundary. It is about 15 km from the municipality center and usually reached by riding the Rural Transit going to Siayan, Zamboanga del Sur. In rare cases, commuters use "Bao-bao" to get to Dulop National High School.

Dumingag National High School is situated in Barangay Lower Landing which is just about 1 km from the municipality proper. Students may walk to reach to Dumingag National High School and in some instances ride in "Bao-bao" or single motor.

2.3. Participants of the Study

The study's participants were the 31 teachers, 12 school heads, 55 parents, and 191 Grade 10 students in Paquito S. Yu Memorial National High School, Lower Timonan, Dulop National High School, and Dumingag National High School, all of Dumingag, Zamboanga del Sur during the School Year 2021–2022.

2.4. Research Instrumentation

The questionnaire checklist was based on the study conducted by Guiamalon et al. (2021). This consisted of 50 items, which sought to determine the management level of modular instruction in the aspects of technical elements, teachers' preparedness, self-learning modules, teachers' managing support, and students' learning. The items of the questionnaire were modified and were subjected to face validity by submitting the said items to the graduate school professors with expertise in educational administration. The questionnaire was also submitted for internal consistency using the Cronbach alpha coefficient. The learning outcomes of the students were measured using the test scores of the students on the summative test.

2.5. Data Collection

To ensure the outmost cooperation of the participants, the researcher asked permission through an official written request from the Dean of Graduate Studies, Campus Administration, Division of Zamboanga del Sur Office of the Superintendent, district supervisors, and school principals.

The researcher administered the survey through print-outs for student-participants, teachers, parents, and school-head participants. Before the survey, the researcher explained and informed the participants of the importance of the study and clearly discussed the instructions and directions. Because of the health crisis recently, the researcher sought the assistance of the teacher-respondents to communicate with the students and parents since he/she has direct access to them. After collecting the data, the researcher processed, evaluated, tallied, organized, computed, analyzed, and interpreted the data.

2.6. Ethical Considerations

The informed consent letter, which highlighted that their participation was voluntary and that participants had the freedom to discontinue their involvement whenever they want and without any legal obligation, ensured that the study closely adhered to ethical principles. The study also respected the responses of the participants and the institutions they represented while maintaining their confidentiality and dignity.

2.7. Data Analysis

In analyzing the general data, descriptive and inferential statistics were used. The weighted average mean and standard deviation were used to describe the management of modular instruction. The frequency and percentage distribution were utilized to discuss the distribution of the students' learning outcomes as revealed by their test scores on the summative test. The Kruskal-Wallis test was used to determine whether there was a significant difference in teachers', principals', parents', and students' perceptions of modular instruction management. The Spearman-rho correlation and t-test of r were employed to test the significant relationship between the students' perceptions of the management of modular instruction and their learning outcomes. Tests of inference were done using the online data analysis calculators and were validated with SPSS. A test of normality was also done on the summative test results of the students as data for the learning outcomes.

3. Results and Discussion

3.1. Management of Modular Instruction

The management of modular instruction was evaluated in terms of technical elements, teachers' preparedness, self-learning modules, teachers' managing support and students' learning. The perceptions of the four groups of participants are reflected in Tables 1 to 5.

Technical Elements. Table 1 reflects the perceptions of the school heads, parents, students and teachers on the technical elements aspect of modular instructional management. Based on the school heads' perceptions, it is evident that the highest weighted average mean is 4.27 interpreted as "very evident," exemplified by the statement, "All classrooms have electricity." This is closely followed by the statement, "Teachers can easily download modules using smartphones, laptops and personal computers," with the weighted average mean of 4.00. This implies that most of the school heads ensured that teachers can have uninterrupted flow of their work especially in the preparation of their modules such as

the encoding, printing and reproduction of their printed modules due to continues supply of electricity in every classroom of the school. In addition, the administrative support was also evident in the case of ensuring that teachers can easily download their instructional materials from their smartphones, laptops or personal computers. Teachers were provided easy access to online learning resources which they can avail anytime and anywhere. According to Education Undersecretary Nepomuceno Malaluan, (2020), out of 700,000 teachers nationwide who answered the recent survey, 87% have laptops or computers at home and 13 % have none which pointed out that majority of the teachers can access their online learning resources from the DepEd commons easily. On the other hand, the problem of internet connection called for most of the attention of the school heads as they registered the lowest weighted mean of 3.27 which is interpreted as "fairly evident." The recent report by Esquire Philippines (2020) noted that the Philippines has expensive turtle internet based on a global digital well-being study which reveals the poor state of Internet in the country. The pandemic has put a spotlight on the country's internet deficiencies.

Based on the perceptions of the parents, it appeared that the highest weighted average mean is 4.07 which is attributed to the statement, "All classroom have electricity," and followed by the statement, "The school is equipped to support modular learning in terms of educational technology. The parents have observed that the school is providing the necessary logistics such as printing and reproduction machines for modular printouts so as to distribute enough for the number of students.

The students and teachers revealed the highest weighted mean values which pointed out the availability of electricity in all classrooms and that the school is equipped to support modular learning.

A close inspection of the weighted average means yielded means of each of the indicators pointing out the lowest value of 3.18 and 3.29. These means are exemplified by the statements, "Every teacher has access to a laptop or a computer," and "Internet connection is ready at all times in school." These imply that a lot of teachers may not have their own laptops or personal computers. According to the Department of Education (DepEd), Undersecretary for operations Jesus Lorenzo Mateo (2020), providing teachers with their own laptops will already cost P23 billion, according to previous estimates by the department. The department will also have to expand the technical capacity of teachers to adopt new technology, such as by providing them with equipment and training to adapt to the new learning strategies (Jesus Lorenzo Mateo, 2020).

Table 1. Management of Modular Instruction in terms of Technical Elements as Perceived by the Participants

Statements	School Heads		Parents		Students		Teachers	
	WAM	I	WAM	I	WAM	I	WAM	I
1. The school is equipped to support modular learning in terms of educational technology.	3.73	EE	4.04	E	4.04	E	3.74	E
2. Every teacher has access to a laptop or a computer.	3.45	E	3.30	FE	3.51	E	3.32	FE
3. Modules are available for download on DepEd website	3.73	E	3.87	E	4.00	E	3.71	E
4. Teachers can easily download modules using smartphones, laptops, and PCs	4.00	E	3.83	E	4.01	E	3.74	E
5. Teachers are computer literate to a reasonable degree.	3.82	E	3.48	E	3.84	E	3.43	E
6. The schools' geographic location is regarded a hotspot for obtaining a good internet connection	3.73	E	3.41	FE	3.53	E	3.29	FE
7. Internet connection is ready at all times in school.	3.27	FE	3.11	FE	3.33	FE	3.00	FE
8. All classrooms have electricity	4.27	VE	4.07	E	4.11	VE	3.77	E
9. For students to enroll, the school keeps track of their contact information	3.73	E	3.48	E	3.60	E	3.39	E
10. In the school, there are printers and photocopiers	3.64	E	3.48	E	3.65	E	3.42	E
Overall Mean	3.74	E	3.61	E	3.76	E	3.48	E

Legend: 4.20 – 5.00 Very Evident (VE) 3.40 – 4.19 Evident (E) 2.60 – 3.39 Fairly Evident (FE)
1.80 – 2.59 Low Evident (LE) 1.00 – 1.79 Very Low Evident (VLE)

Teachers' Preparedness. In Table 2, the management of modular instruction in terms of teachers' preparedness as perceived by the school heads, parents, teachers and students are presented. As observed from the responses, the grand means of 3.77, 3.63, 3.67 and 3.52 are all interpreted as "Evident," among their respective schools. Teachers'

preparedness is evident in the respondent schools. Among the salient indicator pointed out the importance of virtual communication in DepEd most especially if there are instances when teachers need more information. The four groups of participants noted the highest weighted average mean values for this particular indicator.

Another peculiar indicator pointed out to the schools' establishing rules and norms regarding the use of modular learning. The schools emphasized that school heads, teachers, parents and student follow the processes or procedures related to modular instruction. Schools need to strictly follow some protocols in the distribution of the modules to ensure safety of the participants.

Very important perceptions from the school heads with weighted average means of 4.09 and 4.00 are exemplified by the statements, "teachers received appropriate training in modules delivery," and "teachers were ready to employ printed modules as tools for at-home learning." School heads were confident on their teachers having provided with enough trainings and up skilling with preparation of the modules, following the minimum learning competencies, engaging exercises and activities as well as assessment processes for students' learning.

The same perceptions were observed among the parents. It can be noted that the parents registered 3.81 weighted average mean for the statement, "teachers received appropriate training in modules delivery." This same statement, in fact, was also noted by the teachers and students as important indicator with 3.79 and 3.68 weighted average means.

Table 2. Management of Modular Instruction in Terms of Teachers' Preparedness as Perceived by the Participants

Statements	School Heads		Parents		Students		Teachers	
	WAM	I	WAM	I	WAM	I	WAM	I
1. In the aftermath of COVID-19, teachers were equipped to perform distance learning education.	3.91	E	3.74	E	3.84	E	3.71	E
2. Teachers were ready to employ printed modules as a tool for at-home learning.	4.00	E	3.50	E	3.75	E	3.26	FE
3. Teachers keep track of how well students do the task in the SLMs and provide feedback to them.	3.64	E	3.43	E	3.52	E	3.32	FE
4. Teachers were given training on how to manage distance learning courses.	3.45	E	3.74	E	3.67	E	3.68	E
5. Teachers received enough training in the use of technology for the transmission of knowledge.	3.73	E	3.61	E	3.66	E	3.48	E
6. The school has established rules and norms regarding the use of modular learning.	4.18	E	3.87	E	3.83	E	3.68	E
7. Supplementary materials for modular learning have been provided by the school.	3.64	E	3.59	E	3.61	E	3.52	E
8. Teachers received appropriate training in delivery modules.	4.09	E	3.81	E	3.79	E	3.68	E
9. For the COVID-19 pandemic, the school has allocated a reduced workforce.	2.91	FE	2.89	FE	3.10	FE	2.81	FE
10. For further information from the DepEd, virtual communication is used	4.18	E	4.11	E	3.91	E	4.03	E
Grand Mean	3.77	E	3.63	E	3.67	E	3.52	E

Legend: 4.20 – 5.00 Very Evident (VE) 3.40 – 4.19 Evident (E) 2.60 – 3.39 Fairly Evident (FE)
1.80 – 2.59 Low Evident (LE) 1.00 – 1.79 Very Low Evident (VLE)

The overall means of the perceptions of the four groups of participants showed that teachers' preparedness was evident. This implies that teachers are trained and well-oriented to be prepared to perform their tasks and functions on modular instruction education during the new normal.

This is elucidated by the statements of the Undersecretary Diosdado San Antonio (2020), who stated that 300,000 teachers have so far been trained and ready to teach under the new mode of instruction. Aside from the training, there are also local initiatives from the division offices, regional offices where the teachers are also being given training activities, Usec Antonio added.

Self-Learning Modules. The perceptions of the four groups of participants regarding management of modular instruction in terms of self-learning modules are reflected in Table 3. It can be viewed that grand means of the responses

are all interpreted as "Fairly Evident" (3.35, 3.12, 3.29, and 3.10). These imply that the self-learning modules were fairly evident in the respondent schools.

Based on the perceptions of the school heads, self-learning modules were highly evident as printed modules were distributed as indicated by the weighted average mean of 3.64. The statement was attested by the other three groups of participants as the students and the parents have received all their printed modules on time. In addition, the school heads also revealed of the high evidence that key concepts of the self-learning were not only limited rather there are elaborations, more explanations, more illustrations and examples to be better understood by the students. These perceptions were collaborated by the students' perceptions who also noted that key concepts were clearly discussed in the self-learning modules.

Reproducing and releasing self-learning modules is easy. The education department has prepared SLM budgets. Downloading SLMs is easy. According to DepEd (2020), more than 8.8 million parents choose modular learning as an alternative to in-person classes for school year 2020-2021."The SLMs and other alternative learning delivery modalities are in place to accommodate the needs, situations, and resources of each and every learner," DepEd Secretary Leonor Briones said (2020).

Table 3. Management of Modular Instruction in Terms of Self-Learning Modules as Perceived by the Participants

Statements	School Heads		Parents		Students		Teachers	
	WAM	I	WAM	I	WAM	I	WAM	I
1. It is possible to distribute all printed modules.	3.64	E	3.44	E	3.52	E	3.39	E
2. Because the school has sufficient printing capability, SLMs may be reproduced quickly.	3.27	FE	3.04	FE	3.33	FE	3.00	FE
3. Because there are enough school materials, SLMs are released on time.	3.09	FE	3.04	FE	3.24	FE	3.10	FE
4. The expense of reproduction is not a significant issue because schools have sufficient funding.	3.09	FE	2.91	FE	3.14	FE	2.94	FE
5. There are no extra copies of SLMs as all parents have collected them.	3.18	FE	2.94	FE	3.17	FE	2.87	FE
6. The contents of SLMs are free from errors.	3.09	FE	2.80	FE	3.04	FE	2.71	FE
7. The key concepts of SLMs are not limited but with expanded discussions.	3.64	E	3.35	E	3.45	E	3.32	FE
8. The use of language and the degree of difficulty for various types of learners were taken into account.	3.55	E	3.28	FE	3.34	FE	3.29	FE
9. The activities and exercises are appropriate for a wide range of learners' abilities.	3.55	E	3.28	FE	3.37	FE	3.26	FE
10. The assessment designs in the SLMs take into account the students' abilities, interests, developmental readiness, and home resources	3.36	FE	3.11	FE	3.27	FE	3.10	FE
Grand Mean	3.35	FE	3.12	FE	3.29	FE	3.10	FE

Legend: 4.20 – 5.00 Very Evident (VE) 3.40 – 4.19 Evident (E) 2.60 – 3.39 Fairly Evident (FE)
1.80 – 2.59 Low Evident (LE) 1.00 – 1.79 Very Low Evident (VLE)

Teachers' Management Support. In Table 4, it is noted that the teachers' management support as an indicator of management of modular instruction was fairly evident. The weighted average means of 3.16, 3.01, 3.13, and 2.96 attest to these. Examining the perceptions of the four groups of participants yielded three values which emerged the highest (3.36). This is exemplified by the statement, "Within a modular learning environment, teachers are not faced with a perilous route on a daily basis," "It is simple to establish a communication network among stakeholders, such as parents, for help at home," and "It is simple to keep track of a students' progress.".

Teachers have not much difficulty in the distribution of the printed modules in the respondent schools as the distribution was done in the schools and barangay halls within the municipality. This was possible as the schools have established strong linkages with their stakeholders. This is reinforced with their perceptions which elucidated that it is simple to establish a communication network within the school community. The school heads and teachers have established a network of communication among stakeholders such as parents for support at home. According to Undersecretary for Curriculum and Instruction Diosdado San Antonio (2020), another thing that most likely influences the effectiveness

of the learning activities for distance learning delivery modality is the presence of the intense communication mechanism between the teachers and the parents or guardians and learners. Because constant communication, doubts, confusions and uncertainties, and even the difficult activities or problems will be addressed effectively that have been assigned to be undertaken and solved by learners".

Table 4. Management of Modular Instruction in Terms of Teachers' Management Support as Perceived by the Participants

Statements	School Heads		Parents		Students		Teachers	
	WAM	I	WAM	I	WAM	I	WAM	I
1. Teachers have no trouble printing, sorting, and organizing, SLMs for the weeks ahead.	3.18	FE	3.00	FE	3.17	FE	2.97	FE
2. It is safe for teachers to make house visits when necessary.	3.09	FE	2.89	FE	3.04	FE	2.84	FE
3. Within a modular learning environment, teachers are not faced with a perilous route on a daily basis.	3.36	FE	3.06	FE	3.22	FE	3.06	FE
4. It is simple to establish a communication network among stakeholders, such as parents, for help at home.	3.36	FE	3.00	FE	3.17	FE	2.90	FE
5. Checking and analyzing the outputs of students' modules activities is not a difficult task.	3.27	FE	3.15	FE	3.25	FE	3.06	FE
6. It is simple to keep track of a student's progress.	3.36	FE	3.13	FE	3.29	FE	3.06	FE
7. It is simple to give directions to the parents.	3.09	FE	3.00	FE	3.11	FE	2.87	FE
8. It is easy to deal with the stress created by communal quarantine at home and the hasty creation of SLMs.	2.82	FE	2.87	FE	2.97	FE	2.81	FE
9. Teachers received virtual training and skill development in order to prepare for the new learning mode.	3.00	FE	3.00	FE	3.02	FE	3.03	FE
10. It is so simple to beat the school official's deadlines and criteria.	3.09	FE	3.04	FE	3.08	FE	2.97	FE
Grand Mean	3.16	FE	3.01	FE	3.13	FE	2.96	FE

Legend: 4.20 – 5.00 Very Evident (VE) 3.40 – 4.19 Evident (E) 2.60 – 3.39 Fairly Evident (FE)
1.80 – 2.59 Low Evident (LE) 1.00 – 1.79 Very Low Evident (VLE)

Students' Learning. As regards students' learning as a facet of managing modular instruction, it is observed that generally the students' learning was fairly evident in the modular instruction. This is strengthened by the grand means of the perceptions of the school heads, parents, students and teachers (3.28, 2.94, 2.96, and 2.90) which are all interpreted as "Fairly Evident." Although, it is generally described that the students' learning was fairly evident, there are two statements which emerged as evident. The weighted average means of 3.55 and 3.45 were interpreted as "Evident." These statements include: "Because of the communication with the teachers, I have a high level of self-motivation," and "Because they always prefer learning, students pay attention to their parents." The level of self-motivation of the students were encouraged with the strong communication of their teachers. This is in parallel with the highly evident communication network among stakeholders including the parents and teachers as manifestation of strong support for modular instruction.

In addition, students pay attention to their parents when learning. This means that the learners may not be capable to learn independently from the modules because of no face-to-face instruction. The students may not be able to focus on learning due to the absence of face-to-face instruction and most of the parents especially in remote areas have a lack of capacity to explain the module provided for their children. According to Far Eastern University President Michael Alba, remote learning is essentially home schooling. Teachers are trained to build connection with students, and parents may not have the competence or patience to do so. Alba said parents' relationships with their children can vary, "Teachers will be missed. We have delicate students. With a whiff of weather, they demand class cancellations. Agency, the propensity to take purposeful initiative, should be included in the curriculum's learning outcomes. If students have agency, they will try to fulfill their learning goals rather than be passive recipients of instructions," according to Alba (2020).

Table 5. Management of Modular Instruction in Terms of Students' Learning as Perceived by the Participants

Statements	School Heads		Parents		Students		Teachers	
	WAM	I	WAM	I	WAM	I	WAM	I
1. Learners can concentrate on their studies despite the presence of numerous distractions such as electronics.	3.27	FE	2.85	FE	2.90	FE	2.77	FE
2. Learners can focus on their studies even when there are several distractions, such as domestic duties.	3.27	FE	2.83	FE	2.90	FE	2.81	FE
3. Because of the communication with the teachers, I have a high level of self-motivation.	3.55	E	3.04	FE	3.00	FE	2.90	FE
4. Learners develop a sense of responsibility as they complete the module's task.	3.27	FE	2.91	FE	2.94	FE	2.87	FE
5. Due to communication, the feedbacking is updated.	3.18	FE	2.94	FE	3.00	FE	2.94	FE
6. Because they always prefer learning, students pay attention to their parents.	3.45	E	3.07	FE	3.04	FE	3.06	FE
7. Learners are able to learn at home since they are accompanied by their parents.	3.27	FE	3.00	FE	3.06	FE	3.03	FE
8. SLM submission deadlines are not a source of stress for students.	3.27	FE	2.94	FE	2.94	FE	2.90	FE
9. It is simple to ensure that learners learn from the modules.	3.18	FE	2.87	FE	2.92	FE	2.81	FE
10. Learners are able to learn from the modules on their own.	3.09	FE	2.89	FE	2.88	FE	2.87	FE
Grand Mean	3.28	FE	2.94	FE	2.96	FE	2.90	FE

Legend: 4.20 – 5.00 Very Evident (VE) 3.40 – 4.19 Evident (E) 2.60 – 3.39 Fairly Evident (FE)
1.80 – 2.59 Low Evident (LE) 1.00 – 1.79 Very Low Evident (VLE)

3.2. Summary of the Tests for Significant Difference Among the Perceptions of the School Heads, Teachers and Students on Managing Modular Instruction

The Kruskal-Wallis test was used to establish the significance of the difference in the perceptions of the participants on the management of modular instruction. Table 6 reflects the test statistics which also manifest the p-value and the critical value used to compare with the H-value to decide if it is significant or not.

Table 6. Tests for Significant Difference Among the Perceptions of the Three Groups of Participants on Managing Modular Instruction

Variables	Kruskal-Wallis	P-Value	CV	Decision
Technical Elements	11.51	0.009	9.488	Significant
Teachers Preparedness	3.32	0.344	9.488	Not Significant
Self-Learning Modules	4.40	0.22	9.488	Not Significant
Teachers' Managing Support	2.42	0.49	9.488	Not Significant
Pupils' Learning	2.63	0.45	9.488	Not Significant

The test statistics reveal that the H-value or Kruskal-Wallis value of 11.51 is significant at 0.009 probability value. This means that the H-value is greater than the critical value of 1.97 at 0.05 probability level with 297 degrees of freedom. The null hypothesis is rejected. Thus, there is a significant difference among the perceptions of the school heads, parents, students and teachers on management of modular instruction in terms of technical elements.

The perceptions of the participants on the technical elements in support to modular distance learning were varied. The data shows that the teachers have the lowest values of weighted average means compared to the other groups of

participants. It could be that because the teachers are directly responsible for the modular instruction, from the preparation to reproduction and to the distribution, they were well aware of the technical requirements needed to successfully carry out and effectively managed modular distance learning.

The remaining H-values of 3.32, 4.40, 2.42, and 2.63 are below the critical value of 9.488 at the 0.05 probability level with 297 degrees of freedom. This leads to the non-rejection of the null hypothesis. Hence, there is no significant difference among the perceptions of the school heads, parents, students and teachers on the management of modular instruction in terms of teachers' preparedness, self-learning modules, teachers' managing support, and students' learning. The four groups of participants have similar views on the level of management of management of modular instruction which were highly evident for teachers' preparedness, fairly evident for self-learning modules, teachers' managing support and students' learning.

The implication is that parents, students, school administrators, and teachers all have a same outlook on how to manage modular instruction. Their opinions on the use of this kind of teaching methodology do not differ or diverge significantly.

It suggests that there are no significant arguments or controversies regarding the implementation of modular instruction and that everyone is aware of how it works. The fact that everyone is on board with the strategy and can work toward shared objectives suggests that this consensus among them may promote a better learning environment for pupils.

This degree of agreement also implies that these important parties have worked together and communicated effectively to develop a common concept and strategy to modular training. It shows that everyone is collaborating to make sure that kids receive a high-quality education through modular teaching that suits their requirements and aids in their academic success (Dewi & Harsono, 2023).

3.3. Students' Learning Outcomes

To substantiate the results of the level of management of modular instruction, the students' learning outcomes during the new normal modality was assessed. The students' learning outcomes were measured in terms of their test scores in the summative test. The items of the summative test were subjected to the test of normality. Table 7 shows that out of 191 Grade 10 students, the majority, 89 or 46.60 percent have satisfactory performance; followed by 57 or 29.84 who got very satisfactory outcomes. There were 29 students or 15.18 percent whose learning outcomes were considered outstanding.

The mean score of the students was 23.52 which is interpreted as "satisfactory." This implies that most of the students have satisfactorily achieved the learning competencies expected of them to achieve during the second quarter of their school year.

The satisfactory learning outcomes of the students implies that the students need to do a lot more to improve their learning performance. They need to exert more efforts to gain more conceptual understanding of the key performance indicators set in the subject. They need to be more engaged with the learning tasks to better grasp and achieve higher order thinking skills necessary to have much better achievement.

Table 7. Distribution of the Students' Learning Outcomes

Academic Performance	Frequency	Percentage
Outstanding	29	15.18
Very Satisfactory	57	29.84
Satisfactory	89	46.60
Fairly Satisfactory	16	8.38
Did Not Meet Expectation	-	-
Total	191	100.00
Mean	**23.52**	**Satisfactory**

Legend: 32 – 40 Outstanding (O) 24 – 31 Very Satisfactory (VS)
16 – 23 Satisfactory (S) 8 – 15 Fairly Satisfactory (FS)
Less than 7 Did Not Meet Expectation (DME)

3.4. Test for Significant Relationship Between Management of Modular Instruction and the Students' Learning Outcomes.

The Spearman rho correlation and the t-test of r were used to establish the significance of the relationship between the aspects of management of modular instruction and the students' learning outcomes. The test statistics are shown in Table 8.

Table 8. Summary of the Tests for Significant Relationship Between the Perceptions on Managing Modular Instruction and the Students' Learning Outcomes.

Variables	Spearman rho	P-Value	CV	Decision
Perceptions on Technical Elements and Students' Learning Outcomes	0.100	0.165	1.382	Not Significant
Perceptions on Teachers Preparedness and Students' Learning Outcomes	0.127	0.080	1.760	Not Significant
Perceptions on Self-Learning Modules and Students' Learning Outcomes	0.049	0.501	0.674	Not Significant
Perceptions on Teachers' Managing Support and Students' Learning Outcomes	0.03	0.68	0.413	Not Significant
Perceptions on Pupils' Learning and Students' Learning Outcomes	0.036	0.617	0.495	Not Significant

The computed t-tests of the Spearman rho correlation coefficients (1.382, 1.760, 0.674, 0.413, and 0.495) are all below the critical value of 1.973 at the 0.05 probability level with 189 degrees of freedom. This suggests that the null hypothesis is not rejected. Hence, there is no significant relationship between the technical elements, teachers' preparedness, self-learning modules, teachers' managing support, and students' learning and the students' learning outcomes.

This could mean that even if the implementation and management of modular instruction is well and DepEd is trying their best to provide the learning continuity despite the new normal with the modular instruction, however, it seemed that the learning outcomes of the students may not be affected on this.

The findings were in contradiction to that from the study of Satyarthi (2021), Oparina and Rakova (2018) and Jazim and Rahmawati (2017). Satyarthi (2021) found that the modular teaching method was superior than the traditional teaching style. This modular strategy can assist pupils enhance their learning capacity and read self-study materials more easily. Oparina & Rakova (2018) found that the module method to teaching improves students' knowledge. This modular approach to teaching English grammar improves students' comprehension and critical thinking. Jazim and Rahmawati (2017) say that students improve their math comprehension. According to them, using modules in math learning makes high-achieving pupils more engaged.

4. Conclusion and Recommedations

4.1. Conclusions

The findings revealed have paved for the following conclusions:

The respondent schools are highly equipped with educational technology to support modular instruction, have modules downloadable through the DepEd websites. The schools have sufficient financial support and material resources and it is properly utilized to sustain the massive reproduction of Self-Learning Modules (SLMs).Teachers were highly trained to manage modular instruction including the preparation of the contents, printing, distribution and assessment. They were also provided with adequate trainings to enrich their content knowledge with integration of educational technology. The contents of the self-learning modules were not only limited to the minimum essential learning competencies, rather it is enriched with in-depth discussions of concepts, visual illustrations, links for demonstrations and short videos.

The three groups of participants have similar perceptions on the level of management of modular instruction. Most of the student participants have satisfactorily achieved the minimum essential learning competencies in their English subject during the second quarter. The empirical evidence pointed out that even if the schools have highly evident provisions of technology and highly trained teachers, the students' learning outcomes may not be very impressive.

4.2. Recommendations

On the bases of the findings and conclusions, the following recommendations are hereby formulated:

a. The Department of Education shall allocate an additional budget for facilities and equipment needed for modular distance learning modalities. There is a need for work out to provide each teacher with laptop to mitigate their hard efforts in the preparation of module and other learning resources.
b. Schools should ensure that there is a very reliable internet connectivity for the teachers as well as students who preferred to study virtually. There is a need to focus more attention on how to provide assistance to teachers in the management of modular instruction. There is a need to design enhancement activities to improve the students' learning outcomes.
c. Students should work out on the performance, manage their time more effectively and utilize technology to improve their academic performance.
d. The parents can encourage and support their children to face the modular learning modality.
e. Future researches may focus on exploring the effect of modular instruction on the students' development of higher-order thinking skills.

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