

**STUDY BEHAVIOR OF GRADE FOUR PUPILS
USING MODULAR DISTANCE LEARNING**

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Abstract

To meet the needs of the students learning during the pandemic, the Department of Education (DepEd) has implemented modular distance learning as one of its learning modalities. Consequently, the new modality caused learners in the primary grades to adjust their study habits and behavior. This research aimed to determine the study behavior of grade four pupils of an elementary school using modular distance learning. The study used a descriptive survey research design with 142 randomly selected respondents. The data were gathered using the validated and reliability-tested questionnaire. Mean, standard deviation, and Mann-Whitney U test were the descriptive and inferential statistics used for the treatment analysis. The findings revealed a moderately positive study behavior of grade four pupils. There was no significant difference in the study behavior of grade four pupils in terms of time spent studying and dealing with class work when grouped and compared according to sex, average family income, and residence. A similar result occurs in the quality of output submission when grouped according to sex and residence. There was a significant difference in the study behavior of grade four pupils in terms of quality of output submission when grouped and compared according to average family income. The study findings imply the need to re-visit of the ongoing implementation of modular distance learning with a particular focus on students belonging to poor income.

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Keywords: *study behavior, modular distance learning, quality output submission, average family income, descriptive survey research.*

Introduction

Background of the Study

In times of difficulties brought by the pandemic, various societal sectors, especially in education, are experiencing many problems. For centuries, students have been used to acquiring knowledge through the face-to-face method, where the teacher facilitates the learning. However, since physical distancing is required, it is impossible to implement traditional teaching in schools. With these existing problems, a lot of alternatives sprung to adapt to this current situation. The situation paved the way for formulating the new mode of instruction called Modular Distance Learning (MDL). MDL is one of the learning modalities implemented by the Department of Education (DepEd) to sustain the pupils' learning needs during the pandemic. In this modality, the teachers provide the learning materials for the pupils, both printed and in digital format. It allows the pupils to utilize self-learning modules (SLMs) which involve individualized instructions (Llego, 2020).

Despite the advantages of MDL, there are still issues and problems that need to be addressed. According to Dangle and Sumaoang (2020), public schools and institutions that implemented this modality encountered a lot of problems. The pupil's study behavior on this modality is far different from the traditional learning method. A lot of pupils were complaining about their struggles in this new modality. One example would be the role of their parents as the guiding agent of their learning. However, the parent's knowledge is quite limited. They cannot supply accurate answers to every question of their child. In face-to-face learning, pupils can ask the teacher or their classmates immediately whenever they are confused.

Moreover, the pupil's environment plays a vital role in their learning (Hendrix, 2019). Pupils who live in a chaotic and disordered environment have trouble studying. These issues in study behavior could cause several disadvantages to pupils and conflict in their learning.

Study behavior plays a crucial part in the productivity of pupils' academic aspects. It tells how the child copes with such academic demands, especially modular distance learning.

Every pupil has their study behavior which encompasses their study habits and attitude. It is, therefore, crucial to conduct a study that tackles the study behavior of the pupils engaging in modular distance learning.

The current paper aimed to determine the study behavior of the grade four pupils of an elementary school in Silay City using modular distance learning (MDL) during the school year 2020-2021.

Specifically, the study aimed to answer the following questions: What is the study behavior of the grade four pupils using the modular distance learning (MDL) in terms of (a) quality of time spent studying, (b) dealing with class work, and (c) quality of output submission when taken as a whole and when grouped according to sex, average family income, and residence?

Is there a significant difference in the study behavior of the grade four pupils using the modular distance learning (MDL) in terms of (a) quality of time spent studying, (b) dealing with class work, and (c) quality of output submission when grouped and compared according to sex, average family income, and residence?

Framework of the Study

This study is anchored on the theory of connectivism, which is based on the belief that current learning theories, including behaviorism, cognitivism, and constructivism, fail to address the nature of learning in the digital age. Knowledge no longer resides within the individual's mind but is distributed across multiple networks enhanced by technology, where learning "occurs outside of people or within organizations (Siemens, 2004). Connectivism presents a new model of learning that acknowledges the developments in technology and knowledge that are no longer internal or individual. Since education has slowly recognized these changes, Connectivism provides insights into learners' learning skills and tasks to flourish in a digital era. In addition, Walberg's theory of academic achievement proposes that the psychological characteristics of individual pupils and their immediate psychological environments influence educational outcomes that cover the cognitive, behavioral, and attitudinal spheres (Reynolds, 1992). Walberg's research (cited in Reynolds, 1992) identified nine key variables that affect educational products that include pupil's

home environment, peer group, and exposure to mass media ability/prior achievement, motivation, age/developmental level, the quantity of instruction, quality of instruction, classroom climate and outside of school. The environment, therefore, influences personal and professional self-perceptions, competencies, attitudes, interests, and values. Further, through online technologies, learners can profit from an interactive and engaging environment with a range of learning scaffolds and supports, thus enabling them to broaden and make sense of their experience (Hoskins & Hoof, 2005).

The abovementioned theories helped the researchers understand the relationship between variables that focus on pupils' behavior using modular distance learning. Figure 1 shows the schematic diagram of the study. The first box shows the pupils' profile, age, average family monthly income, and residence. The study behavior of the pupils is defined in terms of the quality of time spent studying, dealing with class works, and quality of output submission.

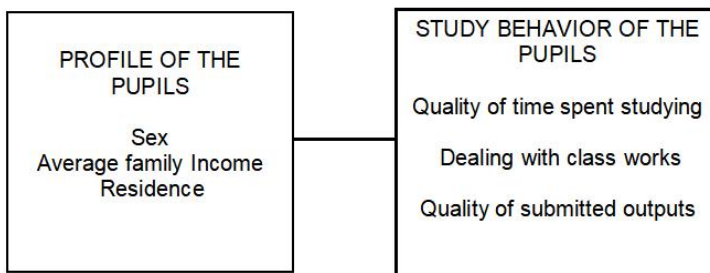


Figure 1. Schematic Diagram Illustrating the Framework of the Study

Materials and methods

Research Design

The researchers adopted a descriptive survey research design to gather data or information about the phenomenon. Descriptive research design employs the process of reliable inquiry through the gathering and analyzing of empirical data and each attempt to develop knowledge (Best & Kahn, 2007). A descriptive research strategy can study one or more variables using various research techniques. Contrary to experimental research, the researcher observes and measures the variables in this study (McCombes, 2019). In this study, descriptive research was used to methodically

describe the students' study behavior using modular distance learning. The researchers simply observed and measured the variables in this study.

Respondents of the Study

The respondents of the study were the 146 grade four pupils of an elementary school in Silay City who were selected using Yamane's formula. The researchers used stratified random sampling to divide the population into groups or strata. Respondents were then chosen randomly from each stratum based on the calculated percentage of how many will be taken from the subgroup (Badia, 1982).

Table 1

Distribution of the respondents of the study

Sections	Population	Frequency	Percent
1	32	21	14%
2	32	21	14%
3	32	21	14%
4	32	21	14%
5	31	20	14%
6	32	21	14%
7	33	21	16%
Total	224	146	100%

Research Instruments

The researchers utilized a researcher-made questionnaire to determine the study behavior of the Grade four pupils of an elementary school in Silay City for 2020-2021. The first part of the questionnaire gathered pertinent information about the profile of the grade four pupils, such as their names, sex, address, and average family income. The second part of the questionnaire covered the items reflecting the study behavior of the grade four pupils using modular distance learning (MDL), which includes the time spent

studying, dealing with class work, and output submission of the students.

The research instrument was presented to the panel members with expertise in education and research. They reviewed the research instrument item by item and judged the suitability and appropriateness of the questions using the Good and Scates criteria. The obtained mean score of 4.40 confirmed the validity of the instrument. All recommendations or suggestions for improvement were considered and incorporated in the finalized instrument. The instrument was pilot-tested to the try-out group of 30 grade-four pupils who were excluded from the study to establish its reliability. To determine the reliability coefficient, Cronbach alpha was applied. The computed values of 0.898, 0.912, and 0.958 for the three areas under study behavior (time spent studying, dealing with class works, and quality of submitted outputs) substantiated the instrument's reliability.

Data Analyses

Mean and standard deviation were utilized to determine the study behavior of the grade four pupils using the modular distance learning (MDL) in terms of quality of time spent studying, dealing with class works, and quality of submitted. The Mann Whitney U test was employed to test for a significant difference in the study behavior of the grade four pupils using the modular distance learning (MDL) in terms of quality of time spent studying, dealing with class works, and quality of submitted output when the respondents grouped and compared according to sex, average family income, and residence.

Ethical Considerations

The researchers made sure to abide by the ethical principles in conducting research. The respondents were not subjected to any harm. The researchers presented all information honestly and avoided misleading information. Before the data gathering, the researchers introduced themselves to the pupils' parents and asked them to sign the consent form to permit their children to participate in the study. The researchers discussed the vital information with them. During data collection, the researchers ensured that the

information and responses the pupils gave were highly confidential. The pupils were oriented not to provide personal information. They were assured that the information gathered would solely be used for the study. The questionnaires and students' records were disposed of the week after the final defense.

Results and Discussion

Study Behavior of Grade Four Pupils Using the Modular Distance Learning when taken as a Whole and when Grouped according to Variables

The grade four pupils had a moderately positive study behavior using modular distance learning (MDL), as indicated by the mean score of 2.88 (SD=0.65). More specifically, the obtained mean scores show that the pupils demonstrated a moderately positive study behavior in the areas of quality of time spent studying (M=2.88, SD=0.68), dealing with class works (M=2.77, SD=0.70), and quality of submitted outputs (M=3.00, SD=0.72).

Based on sex grouping, both males (M=2.85, SD=0.66) and females (M=2.92, SD=0.64) earned a moderately positive rating. Similarly, the grouping according to family income shows that the grade four pupils classified in the below 8,000-peso income (M=2.78, SD=0.67) and above 8,000- peso income (M=2.96, SD=0.62) had a moderately positive behavior using the MDL. In addition, according to the residence, the classification of grade four pupils reflects that those living in the gated (M=2.86, SD=0.62) and non-gated (M=2.88, SD=0.66) residence obtained mean ratings interpreted as moderately positive behavior using the MDL. The numerical findings indicating a moderately positive study behavior using the MDL suggest the grade four pupils' acceptable study behavior accompanies the adoption of MDL as a mode for learning. Notwithstanding the satisfactory result, there is a need to improve the pupils' study behavior to an ideal or extensively positive level by improving some aspects in their end and the delivery of MDL.

According to the study conducted by Sadiq and Zamir (2014), students favored using modular distance learning, which suggests that the modular approach can be widely used in different levels of education. Modular learning extends pupils' participation with the given task to perform. It helps them to be able to learn at their own pace and is seen as effective in the teaching-learning process.

Moreover, it provides them the authority to create a learning environment that is suitable, relevant, and effective for them. This modality gives pupils flexible time to set their working and learning schedules, which is convenient.

Furthermore, the multinational study conducted by Fidalgo et al. (2020) states that educational institutions that implement distance learning education find it easier to meet the needs of the students in a more convenient way. On the other hand, schools that do not offer distance education find it difficult to navigate the steps needed to provide such a program. Although some learners were somewhat apprehensive about the said mode of learning, many still indicated they were interested in distance education. Many students find this learning mode very convenient since they can learn at their phase.

Lastly, Amir et al. (2020) stated that many students preferred distance learning to traditional teaching, which is classroom instruction. The learners agreed that distance learning gave a more efficient and productive learning method since it provided more time to study and review the study materials. It is also stated that despite the challenges they have faced during its implementation, learners could adapt to the new learning methods to full distance learning. Moreover, most students agreed that combining classroom and distance learning could be implemented.

Table 1

Study behavior of the grade four pupils using the modular distance learning when taken as a whole and when grouped according to variables

Variables	Study Behavior											
	Time Spent for Studying			Dealing with Classwork			Quality of Output Submission			Whole		
	\bar{x}	IN	sd	\bar{x}	IN	sd	\bar{x}	IN	sd	\bar{x}	IN	sd
Whole	2.88	M	0.68	2.77	M	0.70	3.00	M	0.72	2.88	M	0.65
Sex												
Male	78	M	0.68	2.73	M	0.72	2.96	M	0.74	2.85	M	0.66
Female	68	M	0.67	2.82	M	0.69	3.03	M	0.71	2.92	M	0.64
Family Income												
< 8,000 PHP	2.84	M	0.69	2.67	M	0.72	2.87	M	0.70	2.78	M	0.67
≥ 8,000 PHP	2.92	M	0.67	2.86	M	0.67	3.11	M	0.70	2.96	M	0.62
Residence												
Gated	2.87	M	0.60	2.70	M	0.74	3.00	M	0.71	2.86	M	0.62
Not Gated	2.89	M	0.70	0.69	M	0.69	2.99	M	0.73	2.88	M	0.66

Test of Difference in Study Behavior of Grade Four Pupils using Modular Distance Learning when Grouped and Compared according to Variables

There was no significant difference in the study behavior using the MDL in terms of time spent studying when the grade four pupils were grouped according to sex ($U=2492.50$, $p=0.53$), family income ($U=2528.00$, $p=0.63$), and residence ($U=1654.50$, $p=0.68$). An identical result was shown in terms of dealing with class works according to sex ($U=2483.50$, $p=0.51$), average family income ($U=2161.00$, $p=0.054$), residence ($U=16151.50$, $p=0.67$). Moreover, a significant difference did not exist in terms of quality of output submission when pupils were grouped according to sex ($U=2530.50$, $p=0.63$) and residence ($U=1735.50$, $p=0.98$).

Contrastive to the preceding results, there was a significant difference in their quality of output submission when grouped according to family income ($U=2101.50$, $p=0.03$). Pupils classified in the more than 8,000 Php ($MR=80.56$) displayed a higher quality of output submission than those categorized in the 8,000 Php and below ($MR=65.40$) monthly income. The p-value is lower than the set alpha level; therefore, the null hypothesis stating the absence of a significant difference in the study behavior of the grade four pupils using the Modular Distance Learning (MDL) in terms of quality of output submission when grouped according to family income is rejected.

According to the study conducted by Thomson (2018), which utilizes data from the Programme for International Student Assessment (PISA), socio-economic is correlated with significant differences in the performance of the learners in most countries participating in the Programme for International Student Assessment (PISA). It is also revealed that learners with poor socio-economic backgrounds tend to be outscored by their peers with high socio-economic backgrounds by large margins. Learners from the highest quartile of socio-economic background perform better, specifically at a level about three years higher than their counterparts from the lowest quartile. This indicates that the gap between the advantaged and disadvantaged learners remains.

In addition, research administered by the American Psychological Association in 2017 suggests that the child's socioeconomic status (SES) contributes to their academic development. It shows that children with a low socioeconomic status who came from poor

households and communities develop slower than children from higher socio-economic groups. The finding suggests that children with low socioeconomic status are often related to poor cognitive development, language, memory, socio-emotional processing, and insufficient income and health when they reach adulthood. Learners from low socio-economic families are more likely to experience inadequacy in accessing learning materials, resulting in low academic performance. On the other hand, learners from high socio-economic families will have an advantage since they have the luxury of resources and are exposed to more information.

Table 2

Test of difference in the study behavior of the grade four pupils using the modular distance learning

Variables	Study Behavior											
	Time Spent for Studying			Dealing with Classwork			Quality of Output Submission			Whole		
	MRnk	U	p	MRnk	U	p	MRnk	U	p	MRnk	U	p
Sex												
Male	71.46	2492.50	0.53	71.34	2483.50	0.51	71.94	2530.50	0.63	71.51	2497.00	0.54
Female	75.85			75.98			75.29			75.78		
Family Income												
< 8,000 PHP	71.68	2528.00	0.63	66.28	2161.00	0.054	65.40	2101.50	*0.03	66.82	2197.50	0.07
≥ 8,000 PHP	75.09			79.79			80.56			79.33		
Residence												
Gated	70.65	1654.50	0.68	70.55	16151.50	0.67	73.35	1735.50	0.98	71.37	1676.00	0.76
Not Gated	74.24			74.26			73.54			74.05		

Conclusions

The grade four pupils have moderately positive behavior towards MDL. This behavior shows that the pupils value their studies, the quality time they spend studying, the productive way of dealing with their class work, and the timely outputs they submit. The introduction of MDL as a new learning modality does not hamper them from complying with the required academic requirements. The shown academic deportment can further be improved with proper academic advising and provision of the needed logistics such as device and connectivity in the delivery of MDL sex, family income, and residence are not differentiating factors to the elementary pupils' study behavior using the MDL regarding time spent studying and dealing with classwork. However, the family income can bring about a difference in the quality of output submission of the young learners.

Given the study's findings, the school administrators may formulate an action plan to improve the study behavior using the MDL of grade four pupils amid the pandemic. They may necessarily include budget appropriations for the enhanced delivery of MDL. The teachers may guide their pupils to attain a commendable behavior in terms of the time spent studying, dealing with class works, and quality of output submission. The teachers may impose an engaging activity that will help the holistic development of the pupils. In congruence with the findings, a face-to-face tutorial or house visitation and video of demo teaching to accompany the pupils' learning are hereby proposed.

On the other hand, the parents may strictly enforce the schedule given by the teacher in answering their module. They may also motivate and inspire their children to know the importance of education and further assist them in rightly coping with their lessons and other academic requirements. Finally, future researchers may further this study by considering other essential variables and aspects of study behavior concerning the adoption of MDL as a new modality for learning at the elementary level.

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