



MODULAR BASED-INSTRUCTION PREPAREDNESS OF ELEMENTARY SCHOOL TEACHERS IN SANTA CRUZ DISTRICT AMIDST THE PANDEMIC

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ABSTRACT

Modular learning is employed by all public schools as face-to-face engagements in the Philippines are restricted due to COVID-19 pandemic. Consequently, the researcher aimed to evaluate the preparedness of Elementary School Teachers in Santa Cruz District for module-based learning. It determined whether the instructors can effectively impart knowledge to their students despite the constraints posed by the COVID-19 pandemic. This research used descriptive research design with 42 elementary teachers of Santa Cruz District, Laguna as respondents for this study. The study also sought to determine the status of preparedness of teachers in terms of health, resources, and interaction. It was analyzed using percentage and factor analyses. Findings revealed that the overall mean of the teacher's health preparedness is 4.65 which accounts for 55.40% variance. The teachers are very prepared with regard to their health. The overall mean of the teacher's preparedness in terms of resources is 4.65 which accounts for 80.90% variance. The teachers are very prepared in terms of resources. Further support may provide to the teachers in the delivery of learning exemplars and retrieval of learning assessments. The support can be in terms of additional protection or assistance from the local government when they deliver exemplars and retrieve learning assessments. The overall mean of the teacher's preparedness in terms of interaction is 4.56 which accounts for 59.30% variance. The teachers are very prepared with their interaction with their pupils. Constant communication between the teachers, parents, and students was key to a successful implementation of modular-based instruction. Further support must be provided to the teachers in the delivery of learning exemplars and retrieval of learning assessments. The support can be in terms of additional protection or assistance from the local government when they deliver exemplars and retrieve learning assessments. Even though, teachers are prepared, health, interaction and resource – wise, they still need additional support in order to reduce stress brought upon by the pandemic. Future parallel studies regarding the preparedness of teachers and learning assessments can be conducted. Variables like years of experience of teachers, age, sex, the type of seminars they have attended and the status of submission of learning assessments can be included. The study could focus on the relationship of teachers' preparedness and other related variables to the status of submission of learning assessments.

Keywords: Modular Based- Instruction, Health, Resources and Interaction Preparedness

INTRODUCTION

Coronavirus Disease (COVID-19) is an infectious disease caused by a newly discovered coronavirus attacking the respiratory system of

people (WHO, 2020). It first emerged in Wuhan, China in December 2019. Within a couple of months, it turned into a global health emergency due to the fast transmission of the said virus resulting in a high number of daily reported cases.

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It affects thousands of people, who are being sick or killed due to the spread of this disease. In March 2020, the World Health Organization declared the COVID outbreak a pandemic as it managed to cross several borders and reach numerous countries.

The COVID-19 pandemic resulted in widespread disruption such as travel restrictions, closure of schools, and economic recession. Most countries around the world resorted to temporarily closing educational institutions to contain the spread of the virus and reduce infections (Tria, 2020). Face-to-face engagement of students and teachers within the school has also been suspended. The Philippines is in the process of adapting to the new normal form of education at present, and continuous efforts of educators and active involvement of other stakeholders are the driving force for its success. For the continuity of education and for every school to still attain its mission and vision which is to provide quality education to every Filipino learner, the Department of Education has implemented the Modular Distance Learning.

Modular learning is the most popular type of Distance Learning Modality in the Philippines. It is an alternative instructional design that uses developed instructional materials which are based on the needs of the students. This learning modality is currently used by all public schools because according to a survey conducted by the Department of Education (DepEd), learning through printed and digital modules emerged as the most preferred distance learning method of parents with children who are enrolled this academic year (Bernardo, 2020). This is also a consideration for learners in areas where the internet is not available and for those without enough means to afford the demands of other distance learning options such as online learning.

With this possible transition to blended learning, schools need to plan virtual learning solutions that include assessing their capabilities based on the reliability of local power supplies, internet connectivity, and readiness of the teachers (Obana, 2020). Decades of research have shown that school transition to technology, in general, is contingent upon multiple interdependent factors. For one, Petko et al. (2018) confirmed that

educational technology integration is dependent on the preparedness of individual teachers. The status of teacher preparedness to integrate educational technology is based on their views and skills

Moreover, the preparedness of the teachers is sensitive to contextual issues. Many studies have identified the interplay between preparedness and various factors. For example, Bingimlas (2009) identified three factors that hinder the preparedness of the teachers on technology integration: "lack of confidence, competence, and accessibility to resources". On the other hand, Buabeng-Andoh (2012), Goktas et al. (2013), Singh and Chan (2014), and Maimun et al., (2017) underscored more particular factors such as teacher skills, school infrastructure, budget allocation, teacher confidence, quality technical support, workload, access to technology, teacher practices, the structure of education systems, nature of the curriculum, and peer support system.

Exacerbated by the current crisis, Cahapay (2020a) stressed that different educational contexts should be considered at this time, so that reasonable changes will be better understood.

This study is significant in these difficult times when education continues to search for a solution to put education forward in the post-COVID-19 period. An assessment of teacher preparedness to the needed transition process of schools to modular-based learning is the initial step toward the attainment of such a solution. The study of Tamban and Maningas (2020) demonstrated the practical use of enhancement program driven by evidence to improve overall teacher capacity.

Parallel to this, the study is also desired to provide a baseline support structure that will assist teachers in an efficient transition to a modular-based learning approach.

The purpose of this study focused on evaluating the preparedness of Elementary School Teachers in Santa Cruz District for module-based learning. It determined whether the instructors could effectively impart knowledge to their students despite the constraints posed by the COVID-19 pandemic. The research has also identified possible assistance and interventions that are favourable to the subjects of the study and would help in bettering the implementation of the said

mode of instruction. It would discuss their Health, Resources and Interaction Preparedness.

OBJECTIVES OF THE STUDY

The purpose of this study was to: 1) determine the status of preparedness of Elementary School Teachers in terms of: Health; Resources; and Interaction; 2) analyze the percentage distribution of learning requirements with respect to Learning Activity Sheets; Performance Task; and Summative test; 3.) compare significant association between the preparedness of Elementary School Teachers on modular - based instruction and the frequencies of learning requirements.

METHODOLOGY

Studying the preparedness of teachers in modular-based learning requires assessing the level of their readiness and analyzing their perception and views on the matter hence, it is only fitting to use mixed method research. Mixed method research design integrates both Qualitative and Quantitative Research. It provides a holistic approach combining and analyzing the statistical data with deeper contextualized insights. Using Mixed Methods also enables triangulation, or verification, of the data from two or more sources.

Evaluators can use a *convergent design* to compare findings from qualitative and quantitative data sources. It involves collecting both types of data at roughly the same time; assessing information using parallel constructs for both types of data; separately analyzing both types of data; and comparing results through procedures such as a side-by-side comparison in a discussion, transforming the qualitative data set into quantitative scores, or jointly displaying both forms of data. The researcher can gather qualitative data to assess the personal strategies used by the teachers and assess their perspective about modular-based teaching while also gathering data from survey instruments measuring their level of preparedness. The two types of data can provide validation for each other and also create a solid foundation for concluding the intervention.

This study involved forty-two (42) Elementary Teachers aged 25 to 55 years old in Santa Cruz District who were using modular-based instructions. Socio-economic factors were not included in the determinants of the participants but would, however, contribute to the significant findings. The demographic framework was also used for the survey.

The participants were chosen through purposive sampling. It is a non-probability sampling method where elements are selected for the sample by using the judgment of the researcher. The researcher gave out the questionnaire to several principals in Santa Cruz District. Then, the principals chose some of their Elementary Teachers who used modular-based instruction in teaching to answer.

RESULTS AND DISCUSSION

1. Preparedness of Elementary School Teachers

1.1. In terms of Health

Table 1 shows the status of teachers' preparedness in terms of health. It had an overall mean of 4.65 and a verbal interpretation of Very Prepared. It seemed that the teachers were very prepared with regards to their health. This could be seen from the indicators, "I have full understanding of the topic I am teaching ($M = 4.81$, $SD = 0.40$).", "I always have a positive outlook in life ($M = 4.69$, $SD = 0.56$).", and "I always attend webinars regarding modular teaching ($M = 4.62$, $SD = 0.54$)." The least of all the indicators of health preparedness was the statement, "I am not experiencing any fatigue ($M = 3.90$, $SD = 1.03$)." This could be the least indicator of health preparedness but recent research had shown that during the lockdown period, teachers have been pressured to adapt (in record time) to offer online courses (Besser et al., 2020). This type of stress is usually accompanied by symptoms of anxiety, depression, and sleep disorder.

All of the above – mentioned indicators were not strongly related to the health preparedness of teachers.



Table 1
Status of Teachers' Preparedness in Terms of Health

Items	Mean	SD	V.I.
1. Have full understanding of the topic I am teaching.	4.81	0.40	VP
2. Am physically fit	4.52	0.59	VP
3. Am free from any stress and anxiety	4.05	0.83	P
4. Am not emotionally fazed with the situation	4.24	0.73	VP
5. Have a long patience with the students	4.57	0.55	VP
6. Always have a positive outlook in life	4.69	0.56	VP
7. Always attend webinars regarding modular teaching	4.62	0.54	VP
8. Always follow a time schedule (time management)	4.57	0.55	VP
9. Am not experiencing any fatigue	3.90	1.03	P
10. Am always prepared physically, mentally, and emotionally	4.31	0.64	VP
Overall Mean	4.43		VP

Based on the survey on health preparedness of teachers, it appears that health preparedness had one factor which accounted for 55.40% variance in that scale. This said factor is strongly associated with the items, "I am physically fit.", and "I am always prepared physically, mentally, and emotionally." The statements "I always attend webinars regarding modular teaching.", and "I have full understanding of the topic I am teaching" had the weakest association with the health preparedness of the teachers.

The health preparedness of teachers in this study was linked to the research of Rabacal et al (2020) entitled "COVID-19 Impact on the Quality of Life of Teachers: A Cross-sectional Study". According to the research, COVID-19 pandemic has had a profound impact on the quality of life of teachers. The moderate impact is concerning mental health almost six months after the massive lockdown in the country. We must continue to pay attention to the quality of life of teachers and their physical and mental well-being. Teachers should also be supported as they continue to adapt to the impact of the COVID-19 pandemic.

1.2. In terms of Resources

Table 2
Status of Teachers' Preparedness in Terms of Resources

Items	Mean	SD	V.I.
1. Make sure that the resources provide learning that is suited to the learner's reading skills	4.64	0.53	VP
2. Make sure that the resources are free from any typographical error	4.45	0.71	VP
3. Make sure that the resources do not have misleading directions	4.52	0.67	VP
4. Make sure that the activity I made can be a substitute for books or manuals which may be difficult to understand	4.48	0.67	VP
5. Make sure that the activity contains simple tasks that can be easily done	4.55	0.63	VP
6. Make sure that the activity reflects attainable objective for each lesson	4.52	0.67	VP
7. Make sure to check all my students' activity whenever I can	4.67	0.61	VP
8. Make sure that I personally check and assess the activity I made before handling them to my students	4.55	0.63	VP
9. Make sure that the resources are reliable and impart knowledge effectively	4.62	0.62	VP
10. Make sure that I have seen the module first before distributing it	4.57	0.63	VP
Overall Mean	4.65		VP

Table 2 was about the status of teachers' preparedness in terms of resources. It had an overall mean of 4.65 and a verbal interpretation of Very Prepared. The teachers were very prepared in terms of resources and the three best indicators of these were the statements, "I make sure to check all my students' activity whenever I can ($M = 4.67, SD = 0.61$).", "I make sure that the resources provide learning that is suited to the learner's reading skills ($M = 4.64, SD = 0.53$).", and "I make sure that the resources are reliable and impart knowledge effectively ($M = 4.62, SD = 0.62$).". On the other hand, the least of the indicators of



resources preparedness was the statement, “I make sure that the resources are free from any typographical error ($M = 4.45$, $SD = 0.71$).” One of these indicators is strongly related to the teachers’ preparedness.

The preparedness of teachers with respect to their resources found a support from the study of Theresa (2017). According to her, even though there is a lack in equipment, it is the teachers who identify the strengths and weakness of the student during the implementation phase of the module, in any case that there is a lesson/task where students did not quite do well, more exercises or activities be developed. The regular, assigned and evaluative tasks may be updated and be reviewed to improve the content of the modules. Emphasis must be given to assigned tasks since student output depends on how well these tasks are to be accomplished; to test student knowledge and application of skills, paragraph development, one-on-one questioning of students, questionnaire to measure how well the students has improved his values, among others. Using factor analysis, the survey on teachers’ preparedness in terms of resources appeared to have one factor which accounted for 80.90% variance in that scale (Figure 2). This factor was most strongly related with the items, “I make sure that the resources are reliable and impart knowledge effectively,” and “make sure that I personally check and assess the activity I made before handling them to my students.”

1.3. In terms of Interactions

Table 3 reflects the status of teachers’ preparedness in terms of interaction. It had an overall mean of 4.56 and a verbal interpretation of Very Prepared.

The results suggested that the teachers were very prepared with their interaction with their pupils. The indicators that best indicated such preparedness were, “I inform the parents about their child’s academic performance ($M = 4.79$, $SD = 0.42$).”, “I maintain a good relationship with the students’ parents ($M = 4.76$, $SD = 0.48$).”, and “I make sure to answer all the queries/ question of the parents/guardian regarding the task given to their children ($M = 4.69$, $SD = 0.52$).”

Table 3
Status of Teachers’ Preparedness in Terms of Interaction

Items	Mean	SD	V.I
1. Make sure that I am always on reach for problems that may arise while learning.	4.62	0.54	VP
2. Inform the parents about their child’s academic performance	4.79	0.42	VP
3. Hold classroom meeting whenever I feel needed	4.24	0.79	VP
4. Approach a student and try to solve the issue if he/she has a problem	4.60	0.63	VP
5. Do home visitation following the proper health guidelines whenever needed	4.14	0.90	P
6. Check my students’ welfare every now and then.	4.50	0.67	VP
7. Maintain a good relationship with the students’ parents	4.76	0.48	VP
8. Make sure to have a harmonious relationship with the parents/ guardian.	4.67	0.53	VP
9. Make sure to answer all the queries/ question of the parents/guardian regarding the task given to their children	4.69	0.52	VP
10. Make sure to explain all the direction that they may find hard to understand, especially those parents/guardian that are not capable to understand the direction given by the modules	4.64	0.53	VP
Overall Mean	4.56		VP

The statement which indicated that the teachers were least prepared and has the least association with interaction preparedness of teachers was, “I do home visitation following the proper health guidelines whenever needed ($M = 4.14$, $SD = 0.90$).” This finding was supported by, Llego, (2020), who said that the teacher that takes responsibility for monitoring the progress of the learners and where possible, the teacher shall do home visits to learners needing remediation or assistance.



Based on the survey on interaction preparedness of teachers, it appeared that it had one factor which accounted for 59.30% variance in that scale. This factor is strongly associated with the items, “I approach a student and try to solve the issue if he/she has a problem.”, and “I make sure to have a harmonious relationship with the parents/guardian.” The statements which were least associated with the interaction preparedness of teachers were “I make sure that I am always on reach for problems that may arise while learning” and “I do home visitation following the proper health guidelines whenever needed.”

The teachers were ready to interact with their students even in this time of pandemic. It is the responsibility of the teachers to communicate with their students, to check on them, know how they are doing with their assigned tasks and know their challenges on performing and accomplishing the requirements. The study of İşman, Dabaj, et al.(2004), *Roles of the Students and Teachers in Distance Education*, defined the tasks and responsibilities of both the learners and educators in distance learning. According to their study, the roles of the teachers in distance education are as follows: assume responsibility for preparation and presentation of learning tasks, immediately consult with students to correct problems and keep them on task, be aware of student needs and wishes; respond promptly to communications and tests, build student motivation, combat prejudice of communication barriers, and establish an effective environment for student-teacher and student-student interaction.

2. Frequency distribution of the frequency of submission of performance tasks, summative tests and activity sheets

2.1. In terms of Performance Tasks

The frequency distribution of the frequency of submission of performance tasks, summative tests and activity sheets is shown in Table 4.

It appeared that the date of submission of a particular learning requirement varied from always to if it was asked in the activity. Each teacher probably had a schedule of submission of learning requirement.

Table 4
Frequency Distribution of Performance Tasks

Levels	Counts	% of Total	Cumulative %
Once a week	22	52.4 %	52.4 %
Daily	2	4.8 %	57.1 %
Always	1	2.4 %	59.5 %
Twice a month	5	11.9 %	71.4 %
Twice every two weeks	1	2.4 %	73.8 %
Twice per quarter	1	2.4 %	76.2 %
Thrice a month	1	2.4 %	78.6 %
Once a month	2	4.8 %	83.3 %
Once every other week	1	2.4 %	85.7 %
Very often	2	4.8 %	90.5 %
3 - 5 times a month	1	2.4 %	92.9 %
If it is ask in the activity	1	2.4 %	95.2 %
Once for each module	1	2.4 %	97.6 %
2 - 3 times a month	1	2.4 %	100.0 %

The schedule is either based on the terms of their department or on the schedule coming from the module itself. In terms of performance tasks, 52.4% or more than half of the elementary teachers required their pupils to submit such tasks once a week while about 12% of these teachers required their pupils to submit them twice a month. The rest of the teachers had schedules consistent with the requirements from the modules.

2.2. In terms of Summative Test

Table 5
Frequency Distribution of Summative Tests

Levels	Counts	% of Total	Cumulative %
Once	2	4.8 %	4.8 %
Twice	6	14.3 %	19.0 %
4 times a month	5	11.9 %	31.0 %
Always	1	2.4 %	33.3 %
4 times every 2nd week I gave a summative test	1	2.4 %	35.7 %
Twice a month	11	26.2 %	61.9 %
Every second week	3	7.1 %	69.0 %
4 times every quarter	4	9.5 %	78.6 %
Once a month	3	7.1 %	85.7 %
Never	3	7.1 %	92.9 %
Every other week	1	2.4 %	95.2 %
3 - 4 times	1	2.4 %	97.6 %
Once a week	1	2.4 %	100.0 %



Table 5 reflects the frequency of summative tests of the pupils. It showed that 26.2% of the elementary teachers required this type of assessment to be submitted twice a month and almost 12% of them had a weekly summative test.

Kindergarten teachers which account for 7.1% of the teachers if not have such requirements for their pupils. The different numbers of summative tests are due to the amount of topics covered by the module. It appeared that if the topics are many then the teachers were resorting to dividing the topics to a level manageable to the pupils.

The different numbers of summative tests are due to the amount of topics covered by the module. It appeared that if the topics are many then the teachers were resorting to dividing the topics to a level manageable to the pupils. The frequency distribution of activity sheets is shown in Table 6. Based on the results, 57.1% of the teachers required their pupils to submit these learning assessments once a week, about 10% had it daily and 7.1% of the teachers required their pupils to submit this task once a month. The 10%, which wanted the activities be submitted to them daily, did not want this assessment to pile up. It seemed that they want to check and record them as quickly as possible.

It appeared from the distribution that at least half of the sample of teachers required their pupils to pass performance tasks and activity sheets once a week and at least a quarter of them had summative tests submitted twice a month

2.3. In terms of Activity Sheets

The results of chi – square test of independence between the frequency of the learning assessments and preparedness of teachers are shown in Table 6.

Since all *p* values are not less than the 0.05 level of significance then the status of preparation of teachers in terms of health, resources and interaction was independent of frequency of learning assessments.

Teachers were ready and were regularly prepared to perform their jobs during this time of pandemic.

Table 6
Frequency Distribution of Activity Sheets

Levels	Counts	% of Total	Cumulative %
Weekly	24	57.1 %	57.1 %
Always	2	4.8 %	61.9 %
Twice a month	2	4.8 %	66.7 %
Once a month	3	7.1 %	73.8 %
At least 4 times a month	2	4.8 %	78.6 %
15 times in a month	1	2.4 %	81.0 %
Every other day	1	2.4 %	83.3 %
Daily	4	9.5 %	92.9 %
5 - 6 times a month	1	2.4 %	95.2 %
8 times a month	1	2.4 %	97.6 %
2 - 3 times month	1	2.4 %	100.0 %

In spite of the unequal frequencies of learning assessments, they did the things which were necessary in order to deliver the services needed by the learners.

3. Frequency of the Learning Assessments and Preparedness of Teachers

Table 7
Association between Frequency of the Learning Assessments and Preparedness of Teachers

χ² Tests Activity Sheets			
	Value	Df	p
Interaction	13.7	30	0.995
Resources	27.8	30	0.582
Health	16.7	30	0.975
χ² Tests PERFORMANCE TASKS			
Interaction	17.8	39	0.999
Resources	24.5	39	0.966
Health	14.0	39	1.000
χ² Tests SUMMATIVE TESTS			
Interaction	24.0	36	0.937
Resources	23.4	36	0.948
Health	38.1	36	0.373

The status of preparation of teachers in terms of health, resources and interaction was independent of frequency of learning assessments. Teachers were ready and prepared to perform their jobs during this time of pandemic. In spite of the unequal frequencies of learning assessments, they were prepared to deliver the learning services needed by the learners.

3.1. Status of Teachers' Preparedness in Terms of Health

The teachers were very prepared with regards to their health. The best indicators of this were the statements, “I have full understanding of the topic I am teaching”, “I always have a positive outlook in life”, and “I always attend webinars regarding modular teaching.”

Health preparedness is strongly associated with the items, “I am physically fit.”, and “I am always prepared physically, mentally, and emotionally.”

3.2. Status of Teachers’ Preparedness in Terms of Resources

The teachers were very prepared in terms of resources and the three best indicators of these were the statements, “I make sure to check all my students’ activity whenever I can”, “I make sure that the resources provide learning that is suited to the learner’s reading skills”, and “I make sure that the resources are reliable and impart knowledge effectively.”

On the other hand, resource preparedness was related to the items, “I make sure that the resources are reliable and impart knowledge effectively,” and “make sure that I personally check and assess the activity I made before handling them to my students.”

3.3. Status of Teachers’ Preparedness in Terms of Interaction

The teachers were very prepared with their interaction with their pupils. The best indicators of this were, “I inform the parents about their child’s academic performance”, “I maintain a good relationship with the students’ parents”, and “I make sure to answer all the queries/ question of the parents/guardian regarding the task given to their children.”

Interaction preparedness of teachers is strongly associated with the items, “I approach a student and try to solve the issue if he/she has a problem.”, and “I make sure to have a harmonious relationship with the parents/ guardian.”

4. Frequency of Learning Requirements

The date of submission of learning requirements depended on the teacher. More than half of the teachers required their pupils to submit performance tasks once a week. A little over a quarter of these teachers had summative assessments twice a month and also more than half of them required their pupils to submit activity sheets once a week.

CONCLUSIONS

Since, there is no sufficient statistical evidence to conclude that the status of preparation of teachers in terms of health, resources and interaction is dependent on frequency of learning requirements then the null hypothesis is not rejected. The status of preparation of teachers in terms of health, resources and interaction is independent of the frequency of learning requirements.

RECOMMENDATIONS

Below is a list of recommendations based on the above – mentioned findings and conclusion.

1. Further support must be provided to the teachers in the delivery of learning exemplars and retrieval of learning assessments. The support can be in terms of additional protection or assistance from the local government when they deliver exemplars and retrieve learning assessments. Even though, teachers are prepared, health, interaction and resource – wise, they still need additional support in order to reduce stress brought upon by the pandemic.
2. Frequency of learning requirements must always be considered. The learners have multiple subjects. So, if all requirements have to be submitted daily then the learners may not only suffer extreme difficulty in doing and submitting all of them and the quality of their work may also be affected. Consider preparing a relaxed schedule of submission of requirements.
3. It is a fact that the teachers are prepared resource, interaction and health – wise. But

they still have to be provided with webinars that seek to further their preparedness or address their mental health. Help teachers update skills in module writing through webinars. Encourage them to inspire and motivate their learners during this time of pandemic.

4. Modify the quantity of learning assessments. Reduce them to a very manageable amount. Also, enhance the quality of the content of the module. The discussion of the lesson together with the learning assessments must be fit the level of understanding of the learners. In this way, the learners may be able to complete the needed learning assessments of each module.
5. Future parallel studies regarding the preparedness of teachers and learning assessments can be conducted. Variables like years of experience of teachers, age, sex, the type of seminars they have attended and the status of submission of learning assessments can be included. The study could focus on the relationship of teachers' preparedness and other related variables to the status of submission of learning assessments.

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