Perceptions of Master Teachers on the Science Learning Modules Used in The New Normal: Learning Content in Focus

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Abstract

This phenomenological study aimed to discover the experiences, perceptions, and suggestions of master teachers in the new normal in education, which is the use of self-learning modules focusing on its learning content. The participants were seventeen (17) Master teachers in Science in public schools selected through the purposive sampling technique. An in-depth interview and focus group discussion were conducted, the data was transcribed, translated, and analyzed through themes, formulating its final transcripts. The results revealed four (4) major themes for the master teacher's experiences; observed modules being difficult for students understanding, observed well-organized contents, noted promotion of independent learning based on MELCs, and identified errors and deficiency of contents. There were also four (4) major themes for the master teacher's perceptions; these were: potential discrepancies, the possibility of comprehensiveness, the possibility of module evaluation, and the risk of lacking coherence. Lastly, five (5) major themes for the master teachers' suggestions in developing good content are; give enough time for module development, simplifying learning modules, contextualizing module content, establishing lines of communication, and attending capacity-building activities. The results implied that the study might help master teachers to utilized modules in Science through following and facilitating higher guidelines and memorandums for module development, providing necessary actions in the school setting regarding the module content and its totality. Thus, the research recommends that a similar study be conducted in a broader range of locations and with varying research methods to gather more factual information about the study.

Keywords: Science education, self-learning modules, learning content, new normal, master teachers, Davao del Norte

1. Introduction

Learning content in Science plays a crucial role in the present generation. There have been instances in which the module's learning content and material are tedious, relying too much on activity rather than discussion, and some have an erroneous answer key. Hence, self-learning modules were developed and implemented as they supplement knowledge and skill. However, problems arise on the content of modules, both from central and local, as observed by teachers and experts.

In England, there have been much of the development and revisions on the use of learning and assessment modules for secondary students because of its negative implications such as the danger of fragmentation of learning, lack of coherence in learning programs, poorly developed overview, and inability to connect areas of content knowledge. Meanwhile, in Turkey, Uyangar, Sahan, and Tanrivedi (2013) discussed the negative perception of teachers and experts about the use and the issue of learning content, design, and assessment of modules in Science, such as the existence of scientific error, lateness for printing quality, inauthenticity, incorrect spellings, comorbidity, and visual deficiency. Inarguably, it connects why most teachers in India have difficulties understanding science concepts due to the insufficient content in textbooks, unavailability of teaching aids, the extra time required for drawing, and inadequate time for teaching concepts (Chavan, 2013).

In the Philippines, the Department of Education reported that they had identified flaws in self-learning modules, particularly in the first quarter. The undersecretary stated 27 sources of errors for locally-developed modules, 3 for central office modules, and 11 for unknown sources. Although there were Quality Assurance protocols in place for every level of self-learning module, from local production to the main office, errors still occurred. The self-learning module mistakes varied in types such as factual inaccuracies, procedural errors, structure, printing errors, spelling and punctuations, sentence structure, and syntax mistakes are found (Magsambol, 2020).

The Davao Del Norte utilized required self-learning modules in Science by Central Office for grades 7, 8, and 10, while Grade 9 Science used locally produced modules from the Tagum City division. As this study is very timely, several teachers at various levels found this school year challenging. However, most of the students in Schools of Division Davao del Norte chooses a modular approach. Still, teachers are problematic when it comes to the content of some modules. It is a great burden for teachers not to explain. It cannot verify queries for several reasons, especially when that confusion makes students unable to proceed in their modules.

The purpose of this phenomenological study was to discover the perceptions of master teachers in Science on the use of modules focusing on the learning content which are currently working in public schools under Schools of Division Davao del Norte. Hence, this study aimed to understand and develop in-depth information in reaching the participant's experiences, challenges, and suggestions in using Science modules focusing on its learning content.

This research is based on Bloom et al. (1956) about Taxonomy of Educational Objectives. There are three hierarchical learning models, namely mental (cognitive), intuitive (affective), and sensorimotor (psychomotor), that are used to categorize academic instructional goals across stages from simple to complex. The cognitive part is in charge of the production of mental abilities. Every teacher needs to apply the taxonomy in educational objectives effectively. One of the challenging parts of designing and creating modules is to construct smart learning outcomes connected to curriculum, activities, and evaluation. Master teachers are one of the most capable in designing and developing a module since they study and spent more years mastering teaching while keeping updated with their respective specialization knowledge. Hence, the teaching and learning process is geared by learning domains that will touch the mind, heart, and skill of students by identifying effective learning objectives in every chunk topic in the module.

2. Methodology

This qualitative study utilized a phenomenological design. Qualitative research is thought to be a way to delve further into a problem and contributed a solution. As Patton (2005) described, the phenomenological study tries to explain people's perception of the phenomena perceived by senses, the meanings they attach to them, and their feelings about this phenomenon. It is based on a systematic and empirical approach and is extremely practical.

This study has gathered the perceptions of master teachers on the use of science modules focusing on the learning contents. Moreover, the study focused predominantly on the perception and insights of master teachers through qualitative research methods. The phenomenological approach is the most appropriate for this has directed me to gather a detailed description of the distinct experiences of participants from the Division of Davao del Norte at the secondary level, which stems from the context they were in that would lead to a substantial insight relative to the importance and relevance of utilizing Science learning modules and its learning content. To fully establish the study's goal, the researcher carefully analyzed participants' important data based on criteria. Purposive sampling was used, in-depth interviews and focused-group discussions guided with the research questions and validated interview guide.

3. Results and Discussion

Experiences of Master Teachers on the content of Science Learning Modules

After analyzing the responses of master teachers about their experiences, the following themes emerged: (1) observed modules being difficult for students understanding, (2) observed well-organize contents, (3) noted promotion of independent learning based on MELCs, and (4) identified errors and deficiency concepts.

Observed Modules Being Difficult for Students Understanding

A practical self-learning module is a design based on the learner's ability to comprehend and availability of materials. However, some modules used in the new normal noticed contents not appropriate for students' level, pinpointed modules that are confusing with unclear instructions and limited examples, observed some uncontextualized concepts and instructions, and observed the use of terms that are complicated for learners without prior knowledge as echoed by the participants.

IDI_07 stated that:

> *"The regional offices and division modules are not quite contextualizing on students' level."*

FGD_01 also expressed that:

> *Some modules today are confusing, the instructions are not clear, making it more complicated, and some modules have limited examples*

Similarly, FGD_07 uttered that:

Some of the modules are not contextualized well because they had just copied it from other available materials.

FGD_04 also added that:

When the concept is so simple, it becomes complicated because they add another term that is jargon to students, making them confused.

Inappropriate content for students' level, uncontextualized modules, and complicated terms affects students' understanding. There are several problems in the contents noticed by the participants, such as contents not appropriate for students' level, pinpointed modules that are confusing with unclear instruction and limited examples, observed some uncontextualized concepts and instructions. Also, they observed the use of terms that are complicated for the learners without prior knowledge. Hence, students find it hard to connect and understand some content in the module.

Observed Well-Organize Contents

A suitable self-learning module is well-organized learning content. Meanwhile, the participants observed a good presentation of content, observed a very organized presentation, and saw more organized modules than the LM's.

In line with this, IDI_01 stated that:

"Science learning content has a very good presentation because it introduces all the content in the module."

Also, IDI_02 asserted that:

"The presentation of contents is very organized because there's a review and pre-test until SLM'S reach the post-test in the module intended for the independent learners."

In the same way, IDI_10 said that:

"SLM's is different because it is more organized than the LM's before."

Learning contents are structured ideas planned carefully to meet a course goal or a theme in a module. The participants observed a good presentation of contents, observed a very organized presentation, and saw more organized modules than the learner's material. Learning units were organized to coordinate the instruction. Modules should be self-contained, self-paced, brief and well established, sufficiently promising, adequately sequenced, offering learner interaction opportunities, clearly written with correct terminology, precise, not in conflict with other subject matter and values, and using every opportunity learning outcomes. Hence, well-organized content will help students focus on processing and retaining information well and maximizing learning experiences in the new normal.

Noted Promotion for Independent Learning based on MELCs

One good characteristic of a learning module is it can stand alone in students' understanding. Participants observed that modules encourage independent learning, found contents that suit self-learning anchored to DepEd's MELCs, and observed brief and concise contents promoting independent learning.

As IDI_01 expressed that:

The SLM's helps the learners perform the task being required by the DepEd. Thus, the module encourages independent learning because I am a writer and experience SLM.

Also, IDI_06 asserted that:

"SLM's encourages independent learning since the writers anchored it to MELCs, and it has a template to follow DepEd for connectivity of learning contents."

FGD_02 also stated that:

"The learning content is brief and concise enough, I think it depends on the learners itself."

A sound module is suited for self-paced instruction that promotes self-learning. The participants observed modules that encourage independent learning found contents that suit self-learning anchored to DepEd's MELCs and observed brief and concise promoting independent learning. Another advantage of using modules for instruction is that students develop greater self-study or learning capabilities. Students participate actively in learning the principles presented in the course. As they completed the tasks in the module, they earn a sense of responsibility. The students progress on their own with little or no help from the teacher. They are learning how to learn and are becoming more self-assured. Consequently, modular education strengthens students' ability to learn by their means by having freedom to paced, contained, and directed by themselves.

Identified Errors and Outdated Concepts

The department of education aims to develop error-free content in the module that contains sufficient and updated concepts. However, several participants found minimal errors in Physics and Chemistry modules, identified incomplete and outdated concepts, and recognized insufficient content that could not tie up knowledge from one module to another.

IDI_03 specified that:

> *"Some modules have errors in their content, especially physics and chemistry but having minimal errors is inevitable. Moreover, some modules are not suitable for one week, and some cover many numbers of competencies in MELC's."*

Additionally, IDI_09 indicated that:

> *"It is not the whole learning content that is erroneous. There are some concepts presented that are hanging and have not been localized. The concepts in the learning content are not updated, having limited graphs and drawings, which is vital for the students' understanding."*

In line with this, FGD_02 stated that:

> *"I can say that it has lapsed and lacking's. The main issue in the modules is that it is unable to tie up the content knowledge from one module to the other."*

Errors and deficiencies of contents in the module might confuse students. On the other hand, participants found minimal errors and Physics and Chemistry modules, identified incomplete and outdated concepts, and recognized insufficient content that could not tie up knowledge from one module to another. Thus, learners are prone to misconceptions and misleading information affecting their potentials due to the errors in self-learning modules.

Perceptions of the Master Teachers about the Contents of Science Learning Modules

After analyzing the responses of master teachers about their perception of the contents of the science learning module, the following themes emerged: (1) potential discrepancies, (2) possibility of comprehensiveness, (3) possibility of module evaluation, and (4) risk of lacking coherence.

Potential Discrepancies

Discrepancies of contents are crucial in students' understanding. The participants resonated with the negative feeling towards learning content. They stipulated that module are being produced with varying qualities, module instruction is confusing to learners, having terms that cannot be easily understood by the students and contents in the module are misinterpreted due to complicated terms and vagueness of instructions.

As IDI_04 stated:

> *"Some sections of the module are very relevant to students' lives since they are presented to comprehend and relate to. However, specific modules are quite perplexing due to their lack of organization. I believe that modules are copied from textbooks, making them relatively comparable. If there is something incorrect with the module, I believe it is due to an error during the retrieval process. Aside from that, clerical errors might cause modules to be incorrect."*

Also, IDI_07 supported that:

"I observed that several kids could not comprehend the directions since the instructions were not appropriate for their understanding abilities. They can be a little hazy at times."

Also, FGD_04 asserted that:

"The comprehension of the students is limited. Some directions are difficult to comprehend in terms of learning content since students are unfamiliar with certain words."

FGD_05 also said that:

"Giving directions has issues in terms of language clarity, syntax, and word usage. Some modules provide only short instructions or employ highfalutin terms that may confound pupils, mainly if they are not avid readers. Students' understanding of what to accomplish with the supplied activity may be misinterpreted."

Discrepancies of content in a self-learning module are evident; hence, a thorough examination must meet students' needs in the new normal. Participants revealed that modules being produced with varying qualities, module instruction is confusing to learners, having terms that the students cannot easily understand, and contents in the module are misinterpreted due to complicated terms and vagueness of instructions. Hence, it needs to review the possible discrepancies observed in the content of the module.

Possibility of Comprehensiveness

A comprehensive material is essential in enhancing knowledge gaps and helping learners to be motivated in searching for more. Hence, the participants revealed the succinctness of the module, having interesting learning contents, completeness of the module from basic to complex contents, and module having learning contents that are specific and easy to understand.

As IDI_01 expressed:

"The learning content in Science is succinct, to the point that even if the module is sparse, it still is complete. Each module, even that with a single topic/competency, is prepared thoroughly by the writers. The deepening of the lesson is already there, and I have nothing against the content because it is mandated."

Also, IDI_03 added

"The contents of today's learning modules are very interesting because they include various activities relevant to our daily lives, notably the pandemic that we are currently experiencing. Some samples are trending and linked to our challenges, so I think that science learning contents in SLM's are interesting."

In addition, FGD_03 stated that:

"I like the content because it has everything, from the basics to the complex. It is now up to the teachers and school administrators to decide whether they will completely adhere to the MELCs or try to make some changes."

FGD_05 also shared that:

"I agree that some of the learning content in some modules is precise and straightforward."

Self-learning modules promote self-regulated learning. The participants perceived the science learning content to be succinct. They also identified modules having interesting learning contents, completeness of the

module from basic to complex contents, and modules having learning contents that are specific and easy to understand. The instructor's ability to employ local materials rather than standard ready-made resources boosts the lesson's efficacy and learners' achievement. Hence, completeness and comprehensiveness of content are ideal for learners today.

Possibility of Module Evaluation

The good self-learning module underwent an efficient and thorough quality assurance by the experts. The participants said that the content of self-learning modules is assessed by their social equality and copyright issues. The module must be simple and appropriate to the learners, and module content is evaluated by its meaningful content, activity, and assessment as perceived by the participants.

IDI_01 stated that:

> *"In Regions 11 and 12, I am one of the SLM evaluators. We checked all copyright sections, social content, language, and images. We also assess the pedagogy, the strategy's trend, and the nature of the activities used."*

Also, IDI_05 said that:

> *"I think that a good self-learning module has a clear presentation of content and smooth teaching or learning process. As a teacher, I must make sure that all contents are true and necessary. Activities must be SMART (Simple, Measurable, ...) I will also use appropriate assessment tools to measure the given competencies."*

Additionally, FGD_04 uttered that:

> *"Modules' pre-test and post-test will be evaluated. Its illustrations, directions, and learning activities will also be evaluated. And since modules are self-paced and self-directed, then they will be assessed objectively."*

A quality assured self-learning module could improve and simplify learning content. The participants' perceived module content is assessed by its social equality and copyright issues. The module is simple, and having an appropriate assessment of the learners and module content are evaluated by its meaningful content, activity, and assessments. Hence, learning would be more meaningful if the contents are accurate and relevant, making learners eager and motivated to do more and connect more.

Risk of Lacking Coherence

Coherent content in the module could potentially affect students learning and retention. However, the participants shared that there is difficulty connecting content knowledge from one module to another, the module becoming disordered that discourages learning, and having learning gaps due to unconnected contents in the module.

As IDI_04 expressed that:

> *"Several tasks remain ambiguous, so I simplify them by including some specific examples from the module. To assist the youngsters in completing the work, I chose the easiest ones. The most difficult part for me is figuring out how to connect the prior modules to the new ones."*

IDI_05 also supported the claim and said:

> *"Some modules are not in the correct order, for example, module 2 occurs after module 3. This is discouraging for the learners, mainly because they are still in the transition stage."*

FGD_06 also affirmed that:

> *"I mean, each module should progress in a spiral pattern. Lessons should be consistent because it will be difficult for the youngsters if they are not. There will be learning gaps because of unconnected contents in the module."*

Connectivity and continuity of learning content engage students in life-long learning. The participants perceived difficulty connecting content knowledge from one module to another, the module becoming disordered that discourages learning and learning gaps due to unconnected contents in the module. Thus, learners need to connect with the content from other modules to weaken learning gaps and misconceptions.

Suggestions of the Master Teachers in Developing the Content of the Science Learning Modules to be used in the New Normal

After analyzing the responses of teachers about their suggestions in developing the learning content in science, the following themes emerged: (1) give enough time for module development, (2) simplify learning modules, (3) contextualize module content, (4) establish lines of communication, and (5) attend to capacity building activities.

Give Enough time for Module Development

Giving sufficient time in writing SLMs is crucial since the learners are being taught independently. The participants suggested giving enough time to develop self-learning modules, giving teacher-writers enough time, and giving enough time for module development.

As IDI_01 affirmed:

"To have the quality SLMs, writers must have enough time for them not to hurry; that is why sometimes there are comments, especially from students' observation, because SLMs made it in a rush. As a result, it didn't undergo quality assurance well even if there is a standard (it goes around to distribute.)"

IDI_05 also specified that:

"If they wished to have quality modules, they must give more enough time for teacher-writers. Since we want to observe continuity and review, hiring other professionals for faster production might be helpful."

Furthermore, FGD_01 stated that:

"The central office should give time to develop the modules because they are making it in a rush. Besides, they should have more time in planning the module, especially on its contents."

Module development entails more time for teachers-writers to meet students' end. The participants articulated that they need to give sufficient time to develop self-learning modules, give teacher-writers enough time, and give enough time for module development. Providing sufficient time for teacher-writers will help them thoroughly examine possible weaknesses of the modules and set them to contextualize even more. Hence, making learners understand the lesson precisely.

Simplify Learning Modules

Simplifying lessons opens up a more elaborated idea that could help learners to grasp every challenging topic quickly. Hence, the participants recommended presenting the basic concepts, simplifying the content of the module, supplying the contents and minimizing activities, and adding more discussion, application, and examples.

IDI_04 shared:

"They should simplify the lessons and go back to basics in developing a module for the students to grasps. There is no need to establish top-level content when students' foundations are still weak."

Also, FGD_07 added that:

"Let us focus on simplifying the contents where the students can handle the lessons because sometimes the foundation itself on the lessons is one of the factors why they have difficult times answering the modules. Also, they do not have teachers to teach them."

FGD_01 also said that:

> *"The modules should be simplified and must contain few activities. Also, adding more deliberations on concepts and applications is essential."*

Additionally, FGD_02 inserted that:

> *"They must include discussion and keywords with meaning on the contents of Science modules, precisely like a teacher would when delivering a lesson to a class, as well as more examples, applications, and contextualization of concepts."*

Simplifying learning contents in the module may help students to learn even more the foundation of concepts. The participants echoed a need to present the basic concepts, simplify the content in the module, supply the range, and minimize the activities. They were also adding more discussion, application, and examples. Thus, it will encourage learners to answer their module, making them perform better because concepts are straightforward.

Contextualize Module Content

Contextualizing key ideas, examples, and deliberations in the module is a good style in reinforcing learning. It was believed by the participants to contextualized modules released by the central region and school's division offices, contextualized the module content based on the availability of material, and contextualized to what students see in accordance in their immediate environment.

> *"There is a need to contextualized for students to understand."*

Also, IDI_04 shared that:

> *"It is essential to contextualize by identifying needs and availability of materials to suit learners' ability, hence having an excellent module and a need to collaborate."*

Moreover, FGD_02 supported that:

> *"The contents should be more contextualized because nowadays there are difficulties for the students understanding the lesson. There will be confusion when we give generic lessons; hence, a module should be contextualized for the different students."*

Contextualizing the content in the module is one of the effective ways to help students achieve learning. As the participants suggested, contextualized modules released by the central region and school's division offices contextualized the module content based on the availability of materials and contextualized to what students see in their immediate environment. Hence, improvising science contests based on students' upbringing and beliefs may help them comprehend and create their ideas from the content.

Establish lines of Communication

Communication in school weakens gaps in modular education as it enables teachers, parents, and learners to work collaboratively. The participants suggested ensuring communication among teachers relative to things necessary for the learners, institute means for the communication among the learners, parents, and teachers, and foster collaboration with Master Teachers.

> *"There must have collaboration with the academic head and the field teachers to contemplate science contents in the module to suit students' needs by unpacking, localizing, and indigenizing the module."*

IDI_05 also supported that:

> *"It is necessary to communicate and coordinate with learners, parents, and co-teachers to brainstorm the need and concerns, particularly in the content of Science learning modules."*

IDI_08 also added that:

> *"To be able to make good learning content, master teachers should collaborate."*

Communication is a necessary process among teachers, parents, and students in addressing specific issues of self-learning modules. The participants suggested ensuring communication among teachers relative to things necessary for the learners, institute means for the communication among the learners, parents, and teachers, and fosters collaboration with master teachers. Thus, re-evaluating contents strengthen teacher-student and teacher-parents rapport in surmounting the challenges in the new normal setting.

Attend to Capacity Building Activities

Capacity building strengthens knowledge and skills in developing a module. Hence, the teacher-writers may opt to submit themselves, attend training and orientation on writing SLMs, attend workshops and seminars in strategy and best practices in writing SLMs and attend sufficient training for designing modules.

As IDI_01 stated:

> *"To be open-minded and submitting oneself for capacity-building like orientation and training in writing SLM could make good science content in the module."*

Also, IDI_06 elaborated that:

> *"To attend seminars, workshops and have supporting tools to write good science content in the module. Also, there must be various available references to improve the content."*

Furthermore, FGD_06 indicated that:

> *"There is a need to have enough training in designing a module because it is necessary to have a background before developing a good module. Also, a quarterly orientation may help teacher-writers to focus."*

There are various ways of capacity building in learning and improvement, such as training, workshops, seminars, and orientations. In DepEd, there are activities intended for the development of teachers, specifically LAC sessions, webinars, and In-Service Training (INSET). The participants recommended attending training and orientations on writing SLMs, participating in workshops and seminars in strategy and best practices on writing SLMs, and participating insufficient training for designing modules. Therefore, attending trainings could strengthen teachers' skills and background in developing good self-learning modules for students.

4. Conclusion and Recommendations

This research contains experiences, perceptions, and suggestions that are helpful in education. One of the very significant experiences I had is conducting this study in the face of the pandemic. But, I have reflected a lot of learnings as a teacher and a researcher. One of these realizations is that master teachers in Science have something in common that makes them deserve their positions. Their ability to find a solution regarding the gaps in learning content in the module is truly inspiring. They advocate for the allotted time for developing and evaluating modules to reduce potential errors and allotted time for contextualizing modules. However, despite some erroneous modules encountered, master teachers are still optimistic about the learning content of the module. According to them, errors are just typical, and we should accept errors as a training ground for a better self-learning module with good learning content in the next school year. For them, trust develops in inconsistencies. Hence, as the new modality arises, it is outstanding to set everything properly in time as long as we capacitate ourselves and stand on one biggest goal we ought to do. That is to help learners learn in light of the adversities in life.

Based on the aforementioned findings and conclusions, the following recommendations were set forth for the future researchers:

1. This study is only limited to the experiences of seventeen (17) master teachers in Science in the use of self-learning modules focusing on learning content. As a basis, the findings from this study are needed as a starting point for further research.

2. In addition, a similar study should be conducted in a broader range of places and with a larger number of participants to acquire more factual information about the study.

3. Furthermore, research may be done by conducting a re-interview with the same participants to find parallelism with the extracted information. Thus, greater research on learning materials and resources with an emphasis on their content and the same research but with alternative research methodologies is also encouraged.

4. It should also be given careful thought to improve one's grasp of creating successful learning content.

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