The Implementation of Grade 11 Science Program in Public Secondary Schools: Teachers' Pedagogical Practices and Problems Encountered in Teaching Science

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Abstract: *This study aimed to evaluate the implementation of Grade 11 Science Program of Public Secondary Schools: Teachers' Competencies and Pedagogical Practices in Teaching Science. Specifically, the study determined the extent of implementation of the program and the problems and difficulties encountered by the science teachers.The study utilized qualitative and quantitative research designs. Descriptive statistics was used to analyze the data. The respondents of the study were 304 learners and 13 teachers from nine (9) public secondary schools in the said city and were chosen using stratified random sampling. The findings of the study revealed that the curriculum standards of Grade 11 Science Program of Public Secondary Schools in Cauayan City were implemented to a great extent. The teachers, therefore, complied with the curriculum standards of the K to 12 set by the Department of Education and they performed very well in the initial implementation of the program.With the implementation of the program, teachers encountered problems seriously on the availability of printed instructional materials, presence of functional science laboratory which are vital to the hands-on activities of the learners, sufficiency of textbooks, instructional materials/teaching guidelines, and learning modules, equal opportunity to attend seminars and trainings, and preparations of two or more subjects.Teachers should continue to anchor daily lesson with the science curriculum guide. They are also encouraged to continue using English as a medium of instruction in Science. They must be sent regularly to seminar-workshops and trainings for them to be updated of the trends in Science and an equal opportunity must be exercised among teachers along this endeavor. The Department of Education through the Learning Resource Management and Development System (LRMDS) Office should make a way to provide sufficient learners' materials and learners' modules in Science to cater the needs of the learners. There should be an available printed instructional materials for the learners.*

Keywords: implementation, Grade 11, Science program, competencies, pedagogical practices, problems encountered

1. Introduction

The Philippine educational system shifted to the K to 12 program in 2012 and is about in its full implementation. Grade 11 commenced on June 2016 while Grade 12 started during the school year, 2017-2018. The rationale for carrying this out is to address the concern that the Philippines is the last country in Asia and one of only three countries in the world (the other two being Djibouti and Angola of Africa) with a ten-year pre-university program [1]. Furthermore, the K to 12 Basic Education Curriculum is geared towards the development of a holistically developed Filipino with 21st century skills who is ready for employment, entrepreneurship, middle level skills development and higher education upon graduation from Grade 12.

The sad state of basic education in the country can be partly attributed to the congested basic education curriculum. The basic education curriculum is meant to be taught in twelve years, yet it is delivered in ten (10) years. The research findings of the comparative study of the curricula of Brunei Darussalam, Malaysia, Singapore and Philippines conducted by SEAMEO-INNOTECH, affirmed that indeed the Philippine basic education curriculum is congested, especially in the Mathematics, Language and Science subjects. The relatively weak performance of Filipino students in Mathematics and Science in Trends in International Mathematics and Science Study (TIMSS) implies that the Philippines must catch up with the world.

Although the aim of the K to 12 program sounds interesting and beneficial, issues on the pre-implementation phase have ascended. The Secretary General of the Alliance of Concerned Teachers (ACT) France Castro said in 2012, that the time spent for teachers' training is not enough. In addition, he reiterated that there are lots of new things for teachers to learn in order to implement the new curriculum.

In order to assess whether the K to 12 program is effective or not, a formative evaluation must be conducted. This process aims to determine what is working, what is not, and why, during the initial implementation. It determines the value of learning and training programs and acts as blueprints for judgment and improvement [2].

With these, the researcher was motivated to conduct a study on the implementation of grade 11 science program in public secondary schools in Cauayan City. The assessment focused on the extent of implementation of Grade 11 science program in terms of the design of the curriculum, medium of instruction, learning resources, assessment of learning outcomes, pedagogical approaches in teaching, and the problems encountered by the teachers in terms of the preparation of learning tasks, delivery mode, course content, school facilities, and classroom assessment.

This may serve as the basis in improving and refining the

implementation of the K to12 science curriculum. This will also lead the Department of Education to a prompt action especially on the provision of sufficient learners' materials and classrooms. The result can help refine the program, hence, leading to a better and quality education.

The study aimed to answer the following questions:
1) What is the extent of implementation of Grade 11 Science Program vis-à-vis the curriculum standards:
   1.1. Curriculum Guide
   1.2. Medium of Instruction
   1.3. Learning Resources
   1.4. Assessment of Learning Outcomes
   1.5. Teaching Strategies/ Pedagogical Approaches of Teaching
2) What are the common problems and difficulties encountered by the teachers in the implementation of Grade 11 Science Program in terms of:
   2.1. Preparation of Learning Tasks
   2.2. Learning competencies/Curriculum guide
   2.3. School Facilities
   2.4. Teaching Guides and Learners' Materials
   2.5. Trainings/Seminars
   2.6. Educational Background
   2.7. Subjects Taught

2. Methods

The researcher employed both quantitative and qualitative research designs. This study utilized the Stufflebeam CIP Evaluation Model [3] to evaluate the implementation of Grade 11 Science Program in public secondary schools in Cauayan City, Isabela.

Qualitative research design was used in gaining a deeper understanding about the following: (a) implementation of the Grade 11 science program in terms of the curriculum guide, medium of instruction, learning resources, assessment of learning outcomes, and teaching strategies/pedagogical approaches; (b) problems encountered by the science teachers; and (c) learning difficulties of learners and their causes, though focus group discussion. This design was also used to validate the data gathered from quantitative method. Meanwhile, quantitative research design was used because there are data gathered on the level of implementation and on achievement test.

The study was conducted in nine (9) public secondary schools in Cauayan City, Isabela that offer senior high school program. The population of the study included the grade 12 students (First Semester, Academic Year 2017-2018) and teachers of public schools in Cauayan City who taught Sciences of Grade 11 curriculum during the school year 2016-2017. The target respondents were chosen from the population through stratified random sampling. There were 13 teacher-respondents and 304 student-respondents.

The researcher used a self-made questionnaire as the main tool in gathering the data. It was used to collect or gather data with regard to the level of implementation of K-12 Science program along with the problems encountered by the teachers and learners.

There were two sets of questionnaire. One for the teacher-respondents and another for learner-respondents. The research instrument for learners consists of the level of implementation of the Grade 11 Science Program and an achievement test to measure their level of proficiency in their science subjects. The subjects included in the achievement test are Earth and Life Science and Physical Science. This comprised of 40 questions. To get the validity and reliability of the test, pilot testing was conducted in another school not included in the study and an item analysis was done. To ensure the appropriateness of the content of the research instrument, content validity was done by three research experts. Pilot testing of the questionnaire and achievement test to at least 10 teachers and 40 students not included as samples of the study was made to assess its validity. The reliability coefficient of the questionnaire was determined and the result (0.89) showed high reliability.

To support the respondents' answers to the research instrument, the researcher also used guide questions for the conduct of interview/ focus group discussion.

The mean was used to measure the level of implementation of K to 12 Science Program and to describe the extent of the problems and difficulties encountered by the respondents as to the implementation of the program. A rating scale was also used to assess the level of implementation, problems encountered by the learners and teachers, and learners' level of proficiency.

3. Results and Discussion

3.1 Extent of Implementation of Grade 11 Science Program

3.1.1. Curriculum Guide

Table 1: Extent of Implementation of Grade 11 Science Program as to Curriculum Guide

Indicators	Mean Rating	Verbal Description
1. Anchors daily lesson with the science curriculum guide.	4.85	Very Great Extent
2. Uses the science curriculum guide in making/constructing my daily lesson log/daily lesson plan.	5.00	Very Great Extent
3. Follows the order of the content/topic indicated in the science curriculum guide.	4.85	Very Great Extent
4. Takes into consideration the content standards being indicated in the science curriculum guide.	5.00	Very Great Extent
5. Uses the performance standards indicated in the science curriculum guide to assess my learners.	5.00	Very Great Extent
6. Follows the learning competencies based on the indicated quarter and week.	4.77	Very Great Extent
Overall Mean Rating	4.91	Very Great Extent

It can be inferred from the table that teachers use the performance standards to assess the learners, consider the content standards being indicated in the science curriculum guide, use the science curriculum guide in making the daily

lesson log, anchor daily lessons with the science curriculum guide, follow the order of the content/topic indicated in the science curriculum guide and also follow the learning competencies to a very great extent as indicated by their mean ratings mentioned in the table.

The results revealed that teachers follow the curriculum guide as to the order of the content, content standard, performance standard, learning competencies, and codes. As mentioned by Sadler (2014) [4], teachers do not walk into the classroom not knowing what to teach and when to teach it. Teachers use curriculum guide for direction when planning. Although there are some teachers who revealed that they sometimes do not follow the learning competencies based on the indicated quarter and week due to class disruptions brought by school activities or other related activities.

When asked about the reasons, the Teacher E replied:
"In my case where I am regularly being sent to seminars and trainings, I admit I usually do not follow the indicated weeks in the curriculum guide but I am making sure to cope up with the missed lessons."

3.1.2. Medium of Instruction

Table 2: Extent of Implementation of Grade 11 Science Program as to Medium of Instruction

Indicators	Teachers		Learners	
	Mean Rating	Verbal Description	Mean Rating	Verbal Description
1. Uses English as a medium of instruction in delivering the lessons in science.	4.08	GE	4.29	GE
2. Uses a lot of visual information and non-verbal communication to support meanings.	4.38	GE	4.30	GE
3. Encourages the learners to express their thoughts/ideas in English.	4.69	VGE	4.56	VGE
4. Uses Filipino or other dialect/s in explaining "hard-to-understand" terms for the learners to better understand the concept.	5.00	VGE	4.96	VGE
5. Uses MTB-MLE in emphasizing the lesson.	4.46	GE	4.57	VGE
6. Requires learners to present ideas or outputs in class activities using the required medium (English).	4.92	VGE	4.79	VGE
Overall Mean Rating	4.59	VGE	4.57	VGE

The results infer that the teachers implemented the Grade 11 science program as to policy on medium of instruction to a very great extent as shown by the overall mean rating of 4.59. Teachers consider the use of other languages and dialects in teaching concepts with high technical terms for the learners to better understand the topics being presented. In spite of this, the teachers are still encouraging the learners to express their thoughts using the required medium.

This is in contrary to DepEd Executive Order No. 210 [5] which mandates that English language shall be used as the primary medium of instruction in all public and private schools in the secondary level, including those established as laboratory and/or experimental schools, and vocational/ technical institutions. However, Science teachers adhere to the DepEd Order No. 31, S. 2012 [6] on adoption of MTB-MLE program in teaching science subjects.

3.1.3. Learning Resources

Table 3: Extent of Implementation of Grade 11 Science Program as to Learning Resources

Indicators	Teachers		Learners	
	Mean Rating	Verbal Description	Mean Rating	Verbal Description
1. Utilizes models in explaining some concepts in science.	4.77	VGE	4.89	VGE
2. Provides worksheets to facilitate teaching-learning process.	4.31	GE	4.06	GE
3. Prepares innovative educational materials for science instruction.	4.38	GE	3.76	GE
4. Uses various types of instructional materials in delivering my lessons.	5.00	VGE	4.96	VGE
5. Uses supplemental resources to differentiate instruction and engage students.	4.69	VGE	3.79	GE
6. Adopts localization and indigenization of learning resources/materials.	4.31	GE	3.62	GE
7. Utilizes various web-based learning portals in accessing and downloading resources.	4.23	GE	2.56	ME
8. Provides 1:1 ratio of modules/learner's materials to learner.	1.54	LE	1.05	VLE
9. Utilizes existing science facilities, laboratory equipment, kits, and other materials which are very necessary in the teaching-learning process.	2.92	ME	1.71	LE
Overall Mean Rating	4.02	GE	3.38	ME

The results suggest that the requirement on learning resources is not substantially and fully attained, particularly on 1:1 policy on availability of learning materials. Also, in the utilization of science facilities, laboratory equipment, and other materials that are essential in teaching-learning process. Seemingly, there is no assurance of acquisition of adequate knowledge and skills, and exposure to fruitful learning environment among students.

This is supported by Parkinson (2017) [7] who stated that science models are used to help a learner understand or visualize an idea, process or system; they are visual or physical representations which helps explain the abstract idea or invisible structure to the learner. On the other hand, teachers cannot provide 1:1 ratio of learners' materials due to unavailability and insufficiency of such since the program is just new.

3.1.4. Assessment of Learning

Table 4: Extent of Implementation of Grade 11 Science Program as to Assessment of Learning

Indicators	Teachers		Learners	
	Mean Rating	Verbal Description	Mean Rating	Verbal Description
1. Administers diagnostic test (pre-test) to assess my learners' strengths and weaknesses, knowledge, and skills prior to science instruction.	3.69	GE	3.87	GE
2. Administers formative evaluation (e.g. quizzes, seat works) throughout the instruction process to assess learners' performance during instruction.	5.00	VGE	5.00	VGE
3. Gives summative evaluation (e.g. periodical test) to measure learners' achievement at the end of grading period.	5.00	VGE	5.00	VGE
4. Provides frequent and immediate feedback to students on their performance.	3.46	ME	3.25	ME
5. Utilizes information derived from assessment to improve teaching and learning Science.	4.46	GE	4.18	GE
6. Gives remediation to learners who did not meet the set objective/content standard.	3.31	ME	2.66	ME
7. Develops an assessment instrument (a test, essay, project, etc.)	3.31	ME	3.97	GE
8. Use scoring rubrics to assess student learning outcomes.	3.85	GE	3.80	GE
9. Conducts assessment test which is a representation of all learning objectives or content/topics of the lesson.	4.15	GE	4.25	GE
10. Reports learners' progress quarterly to parents/guardians.	5.00	VGE	5.00	VGE
Overall Mean Rating	4.12	GE	4.10	GE

The results imply that most of the teachers have good execution of the curriculum standards as to assessment of learning especially in administering formative evaluation, summative evaluation and giving of feedbacks to the parents. This infers that teachers really consider assessment as an integral part of instruction, as it determines whether or not the goals/objectives are being met. The findings are being supported by Ehringhaus (2012) [8] who reiterated that summative and formative assessments are an integral part of information gathering.

3.1.5. Teaching Strategies/Pedagogical Approaches

Table 5: Extent of Implementation of Grade 11 Science Program as to Teaching Strategies/Pedagogical Approaches

Statements	Teachers		Learners	
	Mean Rating	Verbal Description	Mean Rating	Verbal Description
1. Uses a variety of approaches in teaching science.	5.00	VGE	4.71	VGE
2. Provides clear explanations about the topic.	5.00	VGE	4.63	VGE
3. Uses active, hands-on student learning.	4.77	VGE	4.04	GE
4. Provides concrete, real-life, and practical examples.	4.92	VGE	4.53	VGE
5. Praises students' answers and use probing questions to clarify/elaborate answers.	4.77	VGE	4.42	GE
6. Allows students to speak freely or create a class environment which is comfortable to students.	5.00	VGE	4.79	VGE
7. Communicates at the level of all students in class.	5.00	VGE	3.84	GE
8. Utilizes inquiry-based instruction to create situations in which students are to solve problems.	5.00	VGE	4.94	VGE
9. Encourages learners construct their own meaning through reflecting on their experiences.	5.00	VGE	4.39	GE
10. Guides students by asking questions that will lead them to develop their own ideas on the topic.	5.00	VGE	4.55	VGE
11. Encourages group work	5.00	VGE	4.95	VGE
12. Provides varied activities to develop multiple intelligences.	4.69	VGE	4.46	GE
13. Inquires about learners' understanding of concepts before sharing their own understanding about the concepts.	4.62	VGE	4.26	GE
14. Enhances students' satisfaction with their learning experience.	5.00	VGE	4.95	VGE
Overall Mean Rating	4.91	VGE	4.53	VGE

The results implies that teachers are executing the pedagogical approaches/teaching strategies to a very great extent. This suggests that teachers adhere to the standards set by the DepEd in delivering their lessons and are efficient in facilitating the class.

3.2. Common Problems and Difficulties Encountered by the Science Teachers

3.2.1. Preparation of Learning Tasks

Table 6: Common Problems and Difficulties Encountered by the Science Teachers as to Preparation of Learning Tasks

Statements	Mean Rating	Verbal Description
1. Determination of the appropriate activity/task for the learners' level.	1.77	Slightly Serious
2. Preparation of performance tasks for different subjects	3.15	Moderately Serious
3. Preparation of rubric for an activity/task.	3.31	Moderately Serious
4. Access to prepared rubric for an activity/task.	1.38	Not Serious
5. Availability of printed instructional materials.	4.77	Very Serious
Overall Mean Rating	2.88	Moderately Serious

As shown on the table, teachers believed that availability of printed instructional materials (4.77) is a very serious problem. Meanwhile, access to existing rubric for an activity/task (1.38) is not a serious problem.

This infers that availability of printed instructional materials is a very serious problem in terms of preparation of learning tasks. This hinders the effective delivery of instruction in the classroom and this oblige that teachers to improvise instructional materials to facilitate their teaching. Thus, teachers are not fully capacitated toward preparation of learning tasks particularly on outcomes-based performance and development of rubrics.

3.2.2. Curriculum Guide

Table 7: Common Problems and Difficulties Encountered by the Science Teachers as to Curriculum Guide

Statements	Mean Rating	Verbal Description
1. Alignment of content with the curriculum standards.	1.15	Not Serious
2. Suitability of learning competencies to the level of the learners.	2.54	Moderately Serious
3. Organization of the content in the curriculum guide.	1.69	Slightly Serious
Overall Mean Rating	1.79	Slightly Serious

The table shows that suitability of learning competencies to the level of the learners (2.54) is considered as moderately serious. Meanwhile, alignment of content with the curriculum standards (1.15) is not a serious problem.

The results revealed that teachers do not encounter so much problem as to the curriculum guide. The content of the curriculum guide is being aligned with the curriculum standards and it is well organized. Only that, there are some learning competencies which are high/complex to the level of the learners which make it not suitable for them. Thus, teachers had difficulty in implementing the curriculum guide due to complexity of other concepts or topics.

3.2.3. School Facilities

Table 8: Common Problems and Difficulties Encountered by the Science Teachers as to School Facilities

Statements	Mean Rating	Verbal Description
1. Conduciveness of the classroom as to classroom space.	4.00	Serious
2. Conduciveness of the classroom as to class size.	3.15	Moderately Serious
3. Conduciveness of the classroom as to temperature.	4.00	Serious
4. Conduciveness of the classroom as to lighting.	1.23	Not Serious
5. Adequacy of ICT materials used in teaching like projector, monitor etc.	1.85	Slightly Serious
6. Presence of functional science laboratory.	4.23	Serious
7. Adequacy of laboratory equipment in science.	3.00	Moderately Serious
Overall Mean Rating	3.07	Moderately Serious

It can be shown from the table that presence of functional science laboratory (4.23), conduciveness of the classroom as to temperature (4.00) and conduciveness of the classroom as to classroom space (4.00) are considered serious problems. Meanwhile, conduciveness of the classroom as to lighting (1.23) is not a serious problem.

The results reveal that teachers encountered serious problems on the availability of functional science laboratory which are vital to the hands-on activities of the learners. Conduciveness of the classroom as to the classroom space and temperature is also a major concern of the teachers. Healthy and environment-friendly physical classroom and functional and fully equipped laboratory have not been set up so as to achieve the goals of Science Education Program in Senior High Schools. Thus, the standard requirement for effective teaching-learning science has not been fully implemented.

As stated by Blosser (2010) [9], laboratory is an important means of instruction in science. Laboratory instruction is considered essential because it provides training in observation, supplies detailed information, and arouses learners' interest.

3.2.4. Teaching Guides and Learners' Materials

Table 8: Common Problems and Difficulties Encountered by the Science Teachers as to Teaching Guides & Learners' Materials

Statements	Mean Rating	Verbal Description
1. Adequacy of learning modules in science.	4.53	Very Serious
2. Sufficiency of instructional materials or teaching guidelines in science.	4.77	Very Serious
3. Adequacy of updated references for science subjects.	4.15	Serious
4. Sufficiency of textbooks for science subjects.	5.00	Very Serious
5. Creation/invention of instructional materials in science.	4.00	Serious

6. Adequacy of knowledge in contextualization (localization and indigenization of instructional materials)	1.76	Slightly Serious
Overall Mean Rating	**4.04**	**Serious**

It can be gleaned from the table that sufficiency of textbooks for science subjects (5.00), sufficiency of instructional materials or teaching guidelines in science (4.77) and adequacy of learning modules in science (4.53) are treated as very serious problems. Meanwhile, adequacy of knowledge in contextualization--localization and indigenization of instructional materials (1.76) is interpreted as a slightly serious problem.

The results understands that most of the teachers encounter problems seriously as to the sufficiency of textbooks, instructional materials/teaching guidelines, and learning modules. This suggests that learners do not have textbooks to use which lead to the difficulty of learning or understanding science concepts. Thus, may affect their academic performance.

Learning materials are important because they can significantly increase student achievement by supporting student learning. Learning materials can also add important structure to lesson planning and the delivery of instruction

3.2.5. Trainings and Seminars Attended

Table 9: Common Problems and Difficulties Encountered by the Science Teachers as to Trainings and Seminars Attended

Statements	Mean Rating	Verbal Description
1. Sufficiency of seminar-workshop/trainings in Science.	3.69	Serious
2. Adequacy of time spent for seminars/trainings	2.30	Slightly Serious
3. Suitability of seminars to the field of specialization.	1.77	Slightly Serious
4. Opportunities to attend seminars and trainings.	4.85	Very Serious
Overall Mean Rating	3.15	Moderately Serious

It is reflected on the table that opportunities to attend seminars and trainings (4.85) is a very serious problem. Meanwhile, adequacy of time spent for seminars/trainings (2.30) and suitability of seminars to the field of specialization (1.77) are slightly serious problems.

The results reveal that majority of the teachers do not have great opportunity to attend seminars and trainings. This implies that not all of them have the equal chance to be sent to trainings and seminars. Hence, teachers encounter problem in terms of faculty development.

3.2.6. Educational Background

Table 10: Common Problems and Difficulties Encountered by the Science Teachers as to Educational Background

Statements	Mean Rating	Verbal Description
1. Sufficiency of teaching experience.	2.46	Slightly Serious
2. Alignment of baccalaureate degree	2.77	Moderately Serious
to teaching/education units.		
3. Licensed professional teacher.	1.15	Not Serious
4. Verticalization of Post-graduate study/ies to the field of specialization.	2.62	Moderately Serious
Overall Mean Rating	**2.25**	**Slightly Serious**

The table reveals that the alignment of baccalaureate degree to teaching/education units (2.77) and verticalization of post-graduate studies to the field of specialization (2.62) are considered as moderately serious problems. Being a licensed professional teacher (1.15) is not a serious problem.

The result indicates that most of the science teachers are licensed professional teachers and they have sufficient teaching experience. This also connotes that some of them are not education graduates and some of them finished masters not vertical to their specialization.

3.2.7. Subjects Taught

Table 11: Common Problems and Difficulties Encountered by the Science Teachers as to Subjects Taught

Statements	Mean Rating	Verbal Description
1. Alignment of the field of specialization to the subjects being taught.	3.85	Serious
2. Preparation of more than two teaching subjects.	3.92	Serious
3. Teaching more than 6 hours a day.	3.30	Moderately Serious
Overall Mean Rating	**3.69**	**Serious**

It can be deduced from the table that preparation of more than two teaching subjects (3.92) and alignment of the field of specialization to the subjects being taught (3.85) are described as serious problems. Meanwhile, teaching more than 6 hours a day (3.30) is a moderately serious problem.

It implies that some teachers have two or more subjects/preparations and that some of them are teaching more than 6 hours a day.

As stated by Mizzi (2013) [10], teachers teaching outside their area of specialization face considerable challenges in lesson preparation and science teaching. Teachers need to understand the structure and nature of the discipline and learn unfamiliar content knowledge, which is known as subject matter knowledge. Inadequate background in the subject knowledge is one of the main factors that contributes to such challenges and will have an impact on the development of the teachers' pedagogical content knowledge as well as on the teachers' self-confidence and attitudes when teaching topics outside their area of expertise.

4. Conclusion

Evaluation of the K to 12 Basic Education Program in its initial phase of implementation is vital as it seeks to strengthen or improve the program or intervention by examining the delivery of the program, the quality of its implementation and the organizational context, personnel, structures and procedures.

The curriculum standards of Grade 11 Science Program of

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Public Secondary Schools in Cauayan City were implemented to a great extent. The teachers, therefore, complied with the curriculum standards of the K to 12 set by the Department of Education. Teachers performed well in the initial implementation of the program.

With the implementation of the program, teachers encountered problems seriously on the availability of printed instructional materials, presence of functional science laboratory which are vital to the hands-on activities of the learners, sufficiency of textbooks, instructional materials/teaching guidelines, and learning modules, equal opportunity to attend seminars and trainings, and preparations of two or more subjects.

5. Recommendations

The researcher therefore recommend the following: the teachers should continue to anchor daily lesson with the science curriculum guide, follow the order of the content, content standards, performance standards indicated in the science curriculum guide and follow the learning competencies based on the indicated quarter and week; the teachers are also encouraged to continue using English as a medium of instruction in Science, use a lot of visual information and non-verbal communication, and encourage their learners to use English in expressing their thoughts; the Department of Education through the Learning Resource Management and Development System (LRMDS) Office should make a way to provide sufficient learners' materials in Science to cater the needs of the learners.

Also, existing science facilities, laboratory equipment, kits, and other materials should be utilized which are very necessary in the teaching-learning process; Science teachers must be sent regularly to seminar-workshops/trainings for them to be updated of the trends in Science and an equal opportunity must be exercised among teachers along this endeavor

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