



IMPLEMENTATION OF THE K TO 12 CURRICULUM IN SCIENCE LESSONS FOR GRADE 3 LEARNERS

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CHAPTER 1

PROBLEM

Rationale

The 21st century demands a scientifically literate society. In order to be so, the society should join the mainstream in the application of Science and Technology through appropriate instruction. This requires all Science teachers throughout the world to be very adept and knowledgeable in the subject particularly in the concepts, principles and methods of what is considered scientifically relevant in the contemporary times.

Science learning areas in the K-12 curriculum. Its description as a tool subject is anchored on the need to educate our Filipino learners to filter information critically, seek credible sources of knowledge, and use data and facts creatively so they can survive, overcome poverty, raise their personal and national self-esteem, and realized a gracious life in our risky new world. Where there is explosion of knowledge, Filipino learners must be responsive to the current needs which will enable them to become productive and competent in learning when they are left to themselves.

The aim of education in Science is to develop an understanding both of the content of Science and the methods or processes by which that content is produced. The latter goal is one reason for devoting considerable time to hands-on activities or laboratory work. An increasingly important goal of Science education is an understanding of the interactions between Science and Technology and society. The actual picture of Science teaching and learning is one of the great variability. The actual curriculum implemented in most schools is different from the intended curriculum. When it is taught on a regular basis, it is generally pupil-centered and activity-based, resulting in high level of pupil's satisfaction. When pupils move to high school, many experience disappointment, because the science they are taught in neither relevant nor engaging and does not connect with their interest and experience.

The Elementary Learning Competences in Science are expected learning outcomes from Grades 3 to 6 to be developed within a year. These objectives arranged hierarchically from easy to difficult or from simple complex, serve as a guide for teachers in preparing their daily lessons. They also serve as standards for determining the achievement levels of the learners.

The implementation of Science in the K-12 curriculum, aims to develop an understanding of how Science relates to everyday life, the comprehension of the environment and the acquisition of the Science skills, attitudes, and values necessary to solve everyday problem. On the other hand, its goal as a health program is the development and promotion of knowledge, attitudes, values and behavior essentials to individual, family and community health.

Science concepts, skills and practices in Health are infused in learning areas where they blend naturally and are taken as a separate units in other areas. Nevertheless, Science and Health are not taken as two separate learning areas but as one learning area where science complements Health reinforces Sciences.

And so as a basic subject in the K-12 curriculum, Science education should have its goal to develop scientifically literate and concerned citizens with the necessary intellectual resources, values, attitudes and inquiry skills to promote the development of

man with high competence for national thought and action (Ulit, 2000). Further she says that scientifically literate and concerned individual citizen should possess traits which should be thought of as describing a continuum along which he can progress.

To promote scientific literacy, Science curriculum must have a balance of conceptual schemes, science concepts, and science processes, social aspects of science and technology and values derived from science. The achievements of Science and technology should be used by the scientifically literate person for the benefit of mankind.

Unfortunately, the state of the Philippine education today is best described as dismal considering the following statistics from the Department of Science and Technology which reported on the results of the latest trends in International Mathematics and Science Study (TIMSS). In the examination, Filipino placed 41st and 42nd in the two subjects' examination among 25 countries and in another study among 25 countries.

Thus, Science education has been attributed to the fact that many learners are currently memorizing Science facts about many different topics without understanding. In particular most learners failed to see the connection between what they study in Science and their personal understanding of the world. Pupils who underwent years their Science subject are expected to have developed skills that includes how to use, analyze and construct scientific knowledge to describe and explain real world objects, systems, to draw conclusions, make predictions about future events and to decide a course of action.

The challenge of the decade is for the science teachers, in particular to develop learning environments to prepare young people to cope with characterized by rapid changes; develops science process skills and associated values and educate the young people to expect, to promote and to direct societal changes.

It must be noted that the Grade 3 Science learners in Zaragoza Elementary School Bolinao District, Division of Pangasinan I are generally "weak" in the subject based on the test results of their diagnostic test administered during the school year 2024-2025.

It is in the light of the aforementioned development and in the light of the implementation of the Science as a subject in the K-12 Curriculum the researcher proposed lesson in Science for Grade 3 learners in the Bolinao District, Division of Pangasinan I, hence, and the conduct of this study.

Theoretical Framework

In the development of Science teaching, says that the teachers both children, and indirectly, through her own language, and behavior.

While science is an academic subject it is a constantly used medium which can be enlarged and refined on the child's level through experience using it. The teachers must of necessity, take each child where he is, and must learn observation of his use of science and his responses to the science subject to the level of development he has reached and his points of strength and weakness. Then she can meet his needs through the utilization of carefully planned combinations of science skills and experience.

Ulit further stressed that progress in the mastery of science subject is not a matter of planned instruction and willing to learn, but rather a process of natural development and maturation in an environment which provides stimulation and guidance. There are levels of mental development following one another in natural sequence which represent new powers and which are portrayed in the science word used to express them.

Science word is of title value without ideas to express, and ideas are themselves dependent upon science language.

Ulit concludes that education cannot be a hurried process of forced development. It must process a leisurely manner, providing an abundance of rich and varied experience and time to talk about them through to real understanding.

Each concept built should be as well formed and accurate as the mind of the child can conceive at his level of maturity because each concept and each step in science language development form part of the foundation for the thinking and learning yet to come and influence its quality.

Educational psychologist point out that learning involved the interaction of new information with related knowledge the child already possesses. As he adds more and more links of connection to associated concepts he gradually develops his own experience based on a hierarchy of related concepts in a cognitive structure. This is how the concepts become fully understood by the child. Such a theory of learning implies that the teacher should know the learner prior knowledge.

Conceptual Framework

In the overview of the K-12 Curriculum it was stated that we are living in a world filled with all kinds of information news from far and near places and we act on the basis of that filtering process every day. Our world is increasingly constituted by information and is one in which we have to take many forward-oriented decisions. Contemporary Filipino learners are confronted with an explosion of knowledge and they have to take stock of a daily barrage of data and commentaries from far and near sources.

The concept on the implementation in the teaching of science is to educate our Filipino learners to filter information critically, seek credible sources of knowledge, and use data and facts creatively so that they can survive, overcome poverty, raise their self-esteem, develop patriotism and realize a gracious life in our risky new world. Learners must be introduced to the skills they will need in their future workplaces. The skills that we expose our learners, will be the foundation in which they can build a career and continue to grow in the future. Science fosters a dependence, cooperation, communication and the ability to organize, manipulate and evaluate data and to use multiple resources. These are skills that encourage and empower our pupils to become life-long problem solvers.

With the implementation of Science in the K-12 Curriculum or the R.A. 10533 Enhance Basic Education, it is imperative for the teachers to teach to the point of mastery. It is in this pursuit that factors attributable to qualify learning shall be provided adequately. The legal bases of this study is the 1987 Philippine Constitution which states that “the state shall protect and promote the rights of all citizens to quality educational at all levels and shall take appropriate steps to make such education accessible to all”, and another legal basis used in this study is the development of functional literacy which includes essential abilities such as scientific numerical competence.

Hence, this study developed lessons in Science for Grade 3 learners in the implementation of K-12 Curriculum in Bolinao District, Division of Pangasinan I. As seen in Figure 1, in the next page, the researcher used the Input-Process and Output Model, to discuss the paradigm of the study. For input include are the profile of the Science Grade 3 teachers and the profile of Science as a subject in Bolinao District, Division of Pangasinan I in terms of the teaching strategies, instructional materials and assessments of learning. Included also are the problems being met by the Science teachers in the implementation of science as a subject in the K-12 curriculum. The output of this study are proposed science lessons to address the identified needs relative to the teaching of Science in Grade 3.



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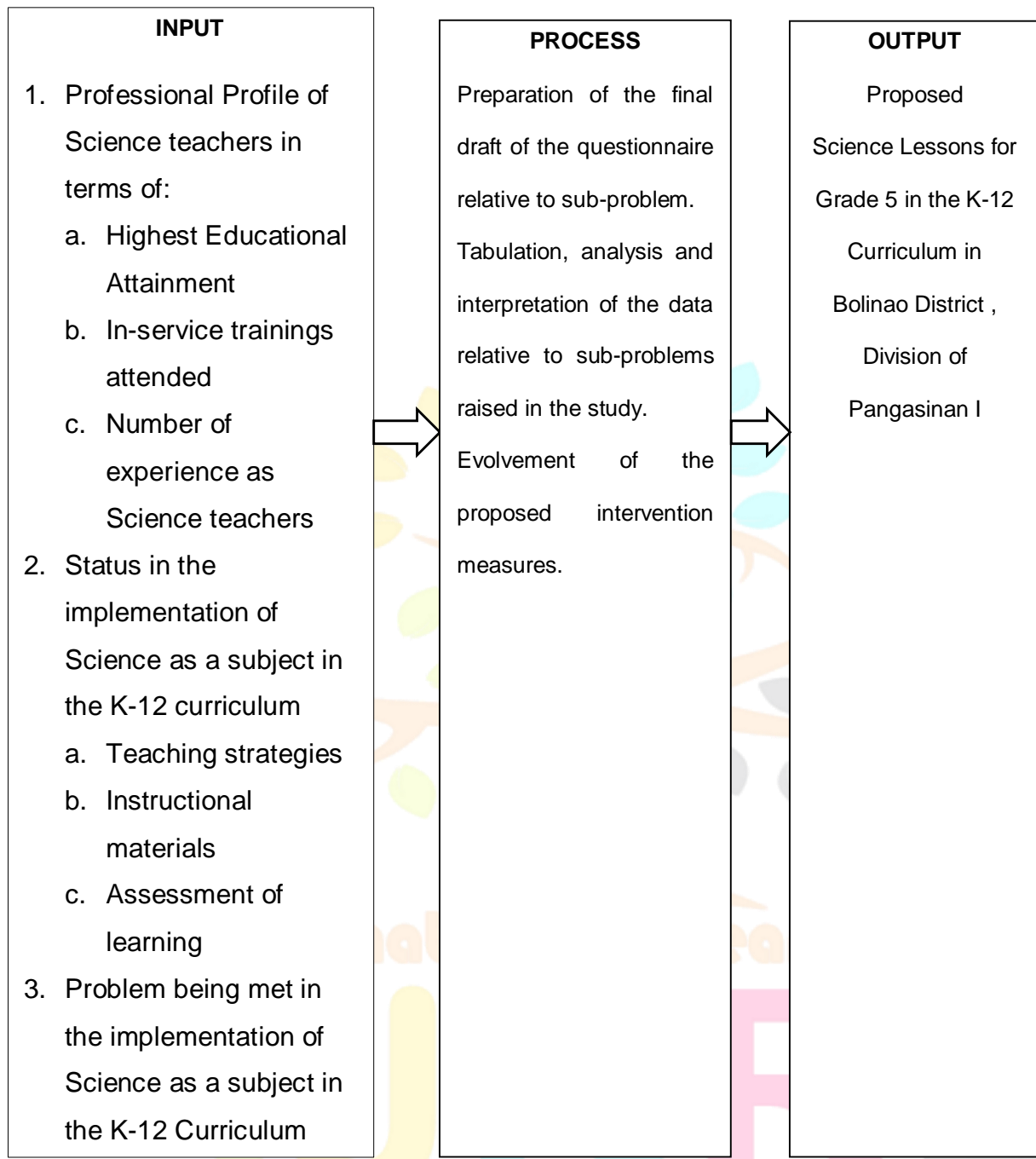


Figure 1

Schematic Diagram on the Conceptual Framework of the Study

Statement of the Problem

This study developed sample lessons for Grade 3 learners in the implementation of the K-12 curriculum in Bolinao District, Division of Pangasinan I during the school year 2024-2025.

Specifically it sought to answer the following sub-problems:

1. What is the professional profile of the Science teachers in terms of:
 - a. Highest Educational Attainment

- b. Number of years of experience as Science teacher
 - c. Relevant in-service trainings attended in Science?
2. What is the status of the implementation of Science in the K-12 curriculum in Bolinao District, Division of Pangasinan I in terms of the following:
 - a. Teaching strategies
 - b. Instructional materials
 - c. Assessment of learning
 3. What are the problems being met by the Grade 3 Science teachers in the implementation of the K-12 curriculum and how serious are these?
 4. Based on the findings what sample science lesson met the criteria in the implementation of the K-12 Curriculum can be developed to address the needs identified in the teaching of Science in Grade 3?

Scope and Delimitation

This study developed science lessons for Grade 3 in the K-12 curriculum in Bolinao District, Division of Pangasinan I during the school year 2024-2025.

The research respondent of the study was limited to the fifteen (15) Science Grade 3 teachers in the different schools in Bolinao District, Division of Pangasinan I. The study included the profile of the Science Grade 3 teachers and the profile of the Science program in terms of the teaching strategies, instructional materials, assessment of learning and the problem being met by the implementation of the K-12 in terms of pupils' related problems. The outputs of the study are proposed science lessons for Grade 3 to address the identified needs.

This study did not determine the effectiveness of the proposed Science lessons for Grade 3 due to time constrains. And it was limited to Science Grade 3 teachers who were under the leadership of Principal II, Principal I and Head Teacher positions in the different schools in Bolinao District, Division of Pangasinan I.

Significance of the Study

The implementation of the K-12 Curriculum impose some demands on teachers and curriculum planner relative to the needs of the Grade 3 Science teachers in the implementation of Science Program. Thus, this study can contribute to a more effective implementation of Science Curriculum. The result of this study will benefit the following:

School Administrators. Their knowledge and skills on the implementation of Science and Health help them implement policies and objectives as embodied in the Philippine Elementary Competencies Grade 3 Science and in the K-12 Curriculum Primer.

Grade 3 Science Teachers. The result of this study will benefit them enhance the teaching-learning process in Science health.

Researcher Herself. The researcher process herself will enable her to come up for better strategies in the teaching of Science.

Other Researchers. The proposed intervention measures can serve as basis to assess the implementation of Science Curriculum, and to undertake studies on a wider geographical scale.

Definition of Terms

In order to have a clear understanding of some words used in study, the following are defined operationally as how these words are used in the context of this study.

Grade 3 Teachers. They were the fifty (50) Science teachers who served as respondents of the study, presently teaching science during the conduct of the study.

Implementation. It refers to something used in a given activity, tool, instrument and other related activities or program. In this, study it refers to the implementation of Science and Health Curriculum.

Problems. This refers to the different aspects in the implementation of Science and Health Grade 3 teachers in order to attain the objectives.

Profile. It refers to the picture of the Science teachers involved as respondents in this study.

Science. This is one of the basic subjects in the K-12 curriculum which aims to developed and understand of the science related to everyday life and family health.

LITERATURE

Theory in the Teaching of Science

The teaching of theory and practice or the “hands-on-minds-on” theory in teaching of Science is strategies that can transform insert learning into useful, meaningful, and gainful activities. Since we are in a world which is full of challenges and complexities it is logical for all the members of the educational community to ensure the attainment of national education objectives more specifically in making science as an effective instrument in improving the life of every citizen.

Cognizant of the importance of science to the country's sustainable development, the Philippine Constitution explicitly provides that:

Science and technology are essential for national development and progress. The state shall give priority to research and development invention. Innovation and their utilization to science and technology education, training and services. It shall support indigenous, appropriate and self-reliant scientific and technological capabilities and their application to the country's productive systems and national life.

For a country to attain progress and national development, it must have a fairly broad and sound science-based curriculum. The new charter provides that “all educational institutions shall aim to inculcate love of country, teach the duties of citizenship, and develop moral character, personal discipline, scientific technology and vocational efficiency.

As reported by UNESCO, the Philippines placed last among the 17 countries which participated in the achievement test in Science. In addition, the report stated that the most difficult subject for the teachers to teach were those of the sciences. Gregorio (2014) observed that students perceive Science subject as tough and rigorous. Able college bound students are believed likely to succeed directly or indirectly which teacher convey this opinion to their students.

Since Science is one of the core learning areas, it has to be strengthened in the basic level. In a speech delivered by Undersecretary Clemente, he cited that: “The area of science need to be nurtured since almost everything around us are products of science and inventions. There is a need to apply scientific knowledge to improve our way of life and solve problems that have persistently pestered human kind”.

One of the barriers in the attainment of national educational objectives more particularly in ensuring the academic achievement of the school children is the inadequacy of funds. The same observations were made by Colloids et al. (2017) who reported that:

- ¹ Teaching cost is generally higher than those for other subjects.
- ² The recurrent cost burden of science teaching is likely to be substantial. The consumption of analytic grade chemical is expensive, the provision of consumables for all the sciences often involve foreign exchange cost. Laboratory assistants to undertake laboratory housekeeping, lesson preparation and cleaning also add to the expense.
- ³ Science learning materials may be more expensive than other textbooks especially if these are imported.
- ⁴ Cost of science education id unnecessarily high when management and support systems for science education are inadequate or non-existent.
- ⁵ Practical facilities are expensive to build up.

In the improvement of the pupils and students' achievements especially on certain areas like Science, several factors have to be considered. Among these are the teachers. According to McCormick (2015) the teacher factor is one of the most vital factors in ensuring the learning success. This may be the reason why the Commission on Higher Education is strict in imposing policies that are aimed at improving the educational operation of all educational institutions in the country in order to produce high quality effective and efficient teachers in the educational field.

The council for Basic Education (CBE) and the American Association of Colleges for Teacher Education (AACTE) as contained in the book of Arenas (2012), are engaged in a five-year multi-state initiative to help universities redesign their teacher preparation programs to ensure that teacher candidates have the content knowledge and pedagogical skills to support K-12 standards. The Standards-Based Teacher Education Project (STEP) support university faculties to use the framework provided by K-12 academic standards and new teacher assessment standards to examine and redefining their teacher education programs. This

STEP ensures the academic content knowledge or new teachers, develop strategies to merge academic content and pedagogy, and establish student learning. The teacher is in all probability the most important element in the learner's environment. According to Walker and Shea (2009), no other variable in the school appears to have greater potential impact on a student than the interpersonal relationship developed between students and the teacher. There are several personal traits that effective teachers appear to have in common: self-insight, self-confidence, understanding, willingness to learn, patience with self and others, flexibility, humor and competence. Effective teacher carefully monitor student progress, flexible and willing to consider and implement new techniques for instruction and management. They see conflict and crisis as manageable and as significant opportunities for learning.

According to Gallet (2008), traditional teaching must be replaced with scientific and problem-solving approach. Traditional teaching is more concerned with ends to achieve than on improving the means of reaching them. The transfer of information is relegated to a simple accumulation of knowledge through lecturing. From the cognitive point of view, the traditional teaching model implies that one can memorize and assimilate information independently from its use. As a result, students retain little of what they learn and have difficulty applying what they know.

The next factor which is attributed to the improvement of Science is the adequacy of instructional materials. The science teacher shall provide adequate, meaningful and interesting set of instructional materials if he wants to ensure mastery among the learners. Instructional aids and devices are used by educators in motivating learner's igniting perception and concepts, supplementing their understanding in accomplishing the experiments, in modeling or demonstration purposes in the conclusion of value judgment in the school. Psychologist claim that instructional materials are indispensable tools in the teaching-learning process. The more senses are used to better understanding of the instruction in affecting teaching.

The improvement of science education can be achieved through the development of instructional materials which is also part in the improvement of the science curriculum. Hans, et al. (2005) singled out the values, use and selection of the instructional materials. These are:

- To help clarify important concepts which means that learners are able to understand certain abstract concepts or any substitute of the real thing. These materials clarify concepts because the concrete is made the bridge to the abstract. They help the learners form mental picture of the realities they represent.
- To arouse and sustain the learner's interest. It is believed that the more sensory organs are used, the more the learned more than those who only hear what the teacher is saying. New and varied instructional materials introduced in the classroom help minimize monotony. Furthermore, as the learners' attitude is developed, their interest is sustained.
- To give all the learners' opportunity to share new experiences necessary for new learning. The use of new and varied instructional materials like pictures, films, televisions, readings, monographs, and modules give all learners the opportunity to share new experiences and share them in the classroom.
- To help make learning more permanent, instructional materials when properly used can “dress up” instruction dramatically and drive home important points with equally vivid, though less startling impressions. These instructional materials create lasting and permanent impression than vague ones conveyed purely through verbal impressions.

To sum it up, authorities assert that students learn more, remember longer, learn faster, learn almost uniformly, give better attention and have better moral responsibility.

These Peace Corps Reference Manual (2016) stresses two basic principles that should be given consideration when using instructional materials. These are:

- [1] The teachers should be properly trained and highly competent in the use of the instructional materials; and
- [2] The amount of information the student retains is directly related to how the materials is presented. This concept when put to use leads to the greatest retention of knowledge.

Green (1966) likewise, enumerated some suggestions to guide the teachers in the use of instructional materials. These are: (a) teaching aids should not be considered as end in themselves but must be used to support methods or procedure; and (b) the instructional materials should serve some vital purpose to challenge the initiative of the learner.

According to Adams and Dicky (2014), the concept of sound educational programs should be concerned with the problems of relating and utilizing suitable materials for instructional in the most effective way possible. The teacher has many responsibilities in selecting, producing and using materials of instruction to make the lesson interesting.

In the United States, Pfuister (2000) studied the condition of science education. His finding showed that roughly ten percent of the Physics, Chemistry and General Science teachers observe lectures ninety percent of the time in the classroom. In the laboratories on the other hand, laboratory is no longer a place for experimentation but a place of exercise.

Niebuhr (2010) on curriculum development prepared and validated a curriculum model for the provision of science education for those in the RSA who has completed compulsory schooling but are still compelled to compulsory education. It was pointed out in the studies that teachers and five Thai educations evaluated the complete prototype instructional materials. The evaluation results revealed that the prototype teaching materials were very satisfactory and can be effectively utilized for classroom purposes.

LOCAL

Arenas (2022) studied the extent of implementation of the selected priority programs in Master Plan for Basic Education in the elementary school of Pangasinan I Division along Teacher Education, Curriculum and Instructional Materials Development, Nutrition and Health, Community-Based Pre-School and Resource Generation Program for the school year 2001-2002. The study likewise looked into the difference between the perceptions of school administrators and teachers in the implementation of the selected priority programs and projects. Based on the findings, the study proposed an intervention program in a form of an action plan to ensure the effective implementation on the selected priority programs in the Master Plan for Basic Education by the school administrators and their teachers.

The study employed 358 school administrators in the 32 school districts of the Division of Pangasinan I and 400 elementary grades teachers who were randomly selected from the 32 districts.

Arenas employed the descriptive method of research with the Likert-type scale questionnaire as the main source of data and information and the average weighted point as her statistical treatment of the data that were gathered from the school administrators and their teachers.

Some of the significant findings of Arenas were: a) The teachers development program in the public elementary schools in the division of Pangasinan I is implemented to a high extent; b) the community-based pre-school program is likewise implemented in the elementary schools to ensure the attainment of the goal of the Early Childhood Development Program, c) the implementation of the school health and nutrition program as the third priority on the master plan for basic education is highly undertaken, d) the fourth priority program on Master Plan for Basic Education that is the Instructional Development Program is implemented in a high level, and e) the resource generation program in the elementary schools in the Division of Pangasinan I is likewise implemented to a high level. On problems encountered by the school administrators and teachers in the implementation of the selected priority programs on Master Plan for Basic Education, the study revealed that on the teacher development program, the problems that were considered serious and very serious revolved around inadequate funding, time constraint and too many paper works within the school while on curriculum and instructional materials development program, the inadequacy of fund for the production or procurement of instructional aids devices and the lack of locally relevant enrichment materials were very serious in the implementation of the program.

Dela Rosa (2011) attempted to analyze the values that are integrated in Science and Technology. For the purpose of her study, she employed the Science teachers as her respondents. Some of her significant findings were: a) the science teachers found themselves inadequate to integrate value skills teaching Science, b) they had inadequate training on values education, c) they lacked curriculum guide in value and skills education. Because of these, the Science teachers confessed that they had inadequate knowledge on values and skills intrinsic to Science and Technology.

In 2007, Abalos studies the attitudes towards certain behavior patterns Science of Grade VI teachers and their pupils specifically on: a) critical-mindedness and open-mindedness, b) resourcefulness and creativity, c) responsibility, d) behavior consistent with health, e) behavior consistent with safety, f) behavior consistent with economy, and g) behavior consistent with conservation. It also focused in the problems being met by the teacher in the development of the pupils' attitudes along behavior patterns in Science.

The study used descriptive method of research with the questionnaire as the data-gathering instrument to determine the extent of the attitudes of the Grade 6 Science teachers and their pupils along some behavioral patterns in Science and the problems being met by the teachers in the development of their pupils' attitudes along said behavior patterns in Science. The average point value was employed in determining the extent of the attitudes of the Grade 6 teachers and their pupils towards from behavior patterns in Science while ranking was employed to determine the degree of seriousness of the problems being met in the development of the pupil attitudes. Person was used to determine the homogeneity of the items. The respondents of the study were 14 Grade 6 Science teachers and 779 Grade 6 Science pupils enrolled in the district of Binmaley II during the school year 1996-1997. Findings of the study are as follows:

A. Extent of the Attitudes of the Grade VI Science Teachers towards the Behavior Patterns in Science

TABLE I. In Terms of Critical-Mindedness and Open Mindedness

The overall average point value of the Grade 6 Science teachers' responses was 3.33 with a descriptive equivalent of "like me" indicating a positive level of attitude.

TABLE II. In Terms of Resourcefulness and Creativity

The average point value of the Grade 6 Science teachers' responses was 3.26 with a descriptive equivalent of "like me" indicating a positive level of attitude.

TABLE III. In Terms of Responsibleness

The teachers manifested a positive level of attitudes with the overall average point value of their responses which was 3.29 with a descriptive equivalent of “like me”

TABLE IV. In Terms of Behavior Consistent with Health

The teachers manifested a very positive level of attitudes with the overall average point value of their responses which was 3.51 which means “very like me”.

TABLE V. In Terms of Behavior Consistent with Safety

The overall average point value of the Grade 6 teachers' responses was 3.49 with a descriptive equivalent of “like me” which indicated a positive level of attitudes.

TABLE VI. In Terms of Behavior Consistent with Economy

The obtained overall average point value of the Grade 6 teachers' responses were 3.36 with a descriptive equivalent of “like me” indicating a positive level of attitude.

TABLE VII. In Terms of Behavior Consistent with Conservation

The obtained overall average point value of the Grade 6 teachers' responses were 3.56 with a descriptive equivalent of “very like me” indicating a positive level of attitude.

Jurial (2011) attempted to evaluate the profile of the science teachers in the public and private schools of Misamis Occidental. It likewise looked into the: a) extent of resourcefulness creativity of the science teachers, and b) the extent of their involvement in scientific-oriented activities in the school and community. It tested the hypothesis “There is no significant difference in the teaching of science between the public and private secondary schools of Misamis Occidental in terms of methodology, teaching style and communication strategy.

Jurial employed the descriptive method of research with the questionnaire as her main tool in gathering the needed data and information. Her respondents were 68 public school teachers and 72 teachers from private secondary school. The study reported that: a) the science teachers were resourceful and creative in the teaching of science, and b) they need to involve themselves in scientific- oriented activities in the school and in the community.

A similar study was conducted by Buban (2014). The study assessed the science instruction in the first year high school of La Concordia College in Manila through the academic qualification and training of science teachers and the utilization of materials of instruction like textbooks, reference books, equipment, techniques of teaching and suggestions for teachers in inspiring the science educational program.

Although intended as an instructional material in the secondary level to reinforce the teaching of science, Buban found her manual sufficient in work-value oriented activities as questions could lead students to analyze, interpret data and formulate conclusions and investigations further showed the relevance of the lesson to technology.

On one end, Turla (2013) studied the factors affecting the achievement in the national college entrance examination (NCEE) and the career choices of the 3 special Science High Schools in the national capital region.

Using documentary analysis, Turla compared the achievement of graduates from both public and private secondary schools on the results of the national college entrance examination. Two of her significant findings were: (a) the poor performance of students in science was partly due to inadequate books and laboratory equipment facility, and (b) private school secondary graduates achieved better than the public secondary school graduates.

Guerrero's (2012) assessment disclosed that the Bureau of Elementary itself is doing a great deal of retraining teachers because of the new curriculum that is being adapted by the Public School System. The training is followed by the Learning Cell (LAC) which is really small groups of teachers who help each other assess their needs and deficiencies in teaching science skills and the like.

Meanwhile, Vergara (2011) evaluated a proposed community-based Physics text materials for the tertiary level. Among the findings were:

- Fig. 1. The community-based Physics material was very much needed in order to accelerate the development of the community.
- Fig. 2. The concepts to be developed in the text material were those topics which were very much related and relevant to the needs and problems;
- Fig. 3. There were cause of incompetence in Physics teaching and lack of instructional materials hence, these should be given priority to make teachers be more worthy and successful mentors; and

Fig. 4. The text and materials proved realistic and relevant.

In 2015, Balasi proposed enrichment materials for the teaching of science for Grade 6 learners. Her study delved on attributing factors that led to unsatisfactory results in teaching of science. Employing the descriptive method of research and documentary analysis and a questionnaire in gathering her needed data and information, Balasi found that the cause of unsatisfactory results in the teaching of Science was attributed to the incompetence of the teachers on account of their inadequate preparation to teach the subject, in sufficient textbooks, instructional aids, lack of laboratory facilities and a separate Science room.

Absin's (2000) study used to descriptive research method to determine the extent of science readiness and its effect on science learning of freshmen college students in Xavier University. The research found out that: (a) problems are encountered in varying levels of seriousness which pupil and teacher-related; (b) there is a strong need for the schools to use and, probably, adopt the proposed tools so teachers will find teaching of Science more interesting and empowering them to use variety of teaching methodologies and skills, exercises and evaluation; (c) the set of proposed supplementary materials for Science VI are found to be highly acceptable as often agreed by the group respondents; (d) quality of Science instruction can only be achieved to the maximum, if only the school administration upkeeps its physical facilities and resources (laboratories, textbooks, and multimedia tools) and the quality Science teachers can only be achieved through continuous training and education.

Aleta (2010) on the other hand studied the factors associated with the performance of students of Science and Technology. The study disclosed that the performance of the students could be significantly improved by providing the laboratory with the required equipment and by improving the instructional materials. The socio-economic status of parents through increased family and the student's performance are also interrelated. Further, the high standard of reading instruction in the elementary grades and high standards of instruction in high school are factors that are associated with the performance of the students in Science and Technology.

Contributions of the Reviewed

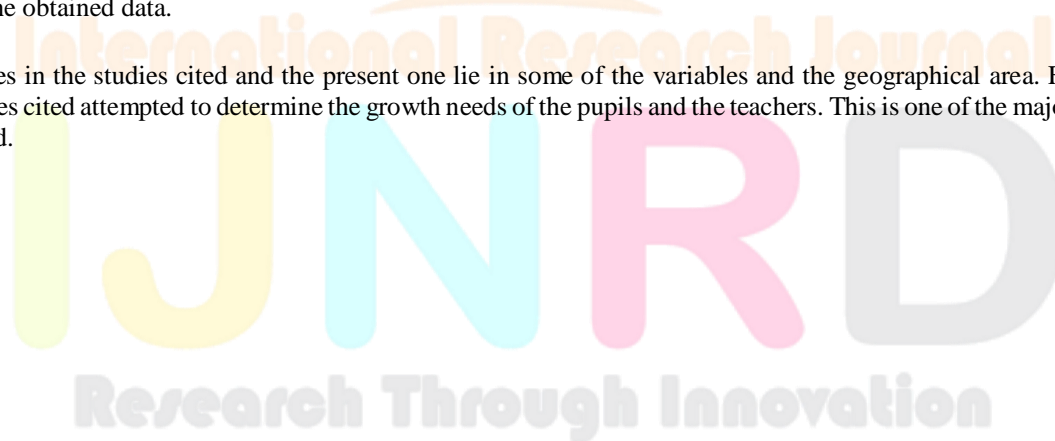
Literature and Studies to

The Present Study

This study drew insights/concepts/background knowledge from reviewed professional literature and related studies which have bearing on it.

The related studies and the present study have striking similarities. All of them assessed the implementation of the Science Program except that of Arenas whose focus was the assessment of the 5 programs in the Master Plan for Basic Education. Most studies cited employed teachers as their respondents and pupils/students as their subject cases. Another noted striking similarities among the related studies cited an the present one were their instrumentations and statistical tools used in dealing with their research problems. It is apparent that most of the studies cited used a questionnaire in obtaining their data and information and weighted points to analyze the obtained data.

Differences in the studies cited and the present one lie in some of the variables and the geographical area. For instance, not one of the studies cited attempted to determine the growth needs of the pupils and the teachers. This is one of the major objectives of the study at hand.



METHODOLOGY

This chapter deals with the methodology of this study. Discussed here are the research design, the sources of data that includes the locale of the study, the instrumentation and data collection and tools for data analysis.

Research Design

This study used the descriptive method of research in the assessment of the development of sample lessons of Grade 3 learners in the implementation of the K-12 curriculum in Bolinao District, Division of Pangasinan I during the school year 2024-2025. The study included the professional profile of the Science teaching in terms of their highest educational attainment, number of years of experience in teaching Science and relevant in-service trainings, the profile of the implementation of Science as a subject in Grade 3 in the K-12 curriculum in terms of the following: teaching strategies, instructional materials and assessment of learning. Based on the findings, this study proposed sample lessons for Grade 3 learners in the implementation of Science program in Bolinao District, Division of Pangasinan I to address the needs identified relative to the teaching of Science in Grade 3.

Source of Data

The fifty (50) Science teachers in Bolinao District, Division of Pangasinan I served as respondents of the study which is presented in Table 1.

Table 1
Distribution of the Respondents

N = 50

Schools	Number of Grade 3 Science Teachers
1. Arnedo ES	2
2. Balingasay ES	2
3. Beda Elementary School	2
4. Binabalian Elementary School	1
5. Cabuyao Elementary School	1
6. Catuday Elementary School	1
7. Catungi ES	1
8. Culang Elementary School	1
9. Dewey ES	1
10. Estanza ES	1
11. Gagaban ES	2
12. Goyoden ES	2
13. Ilog-Malino ES	1
14. Lambes ES	2
15. Lucero Elementary School	1
16. Luciente IES	4

17. Luciente II ES	2
18. Luna Elementary School	1
19. Patar ES	2
20. Pilar ES	2
21.Samang Norte ES	1
22. Salud ES	2
23. Samang Elementary School	2
24. Sampaloc Elementary School	2
25. SAN ROQUE ES	2
26. Tanobong ES	2
27. Tara ES	1
28. Victory Elementary School	2
29. Yabyaban Elementary School	2
30.Zaragoza ES	2
Total	50

Instrumentation and Data Collection

To gather data needed, this researcher used the questionnaire relative to the sub-problems. Sub-problem 1, focused on the professional profile of the Grade 3 Science teacher; the profile of the implementation of Science as a subject in the K-12 curriculum; the problems being met by the Grade 3 Science teachers in the implementation of Science as a subject in the K-12 curriculum. Based on the analysis of the findings, a proposed sample lessons that meet the criteria in the implementation of the Science program in the K-12 curriculum to address the needs identified relative to the questionnaire was checked by her adviser and such suggestions were incorporated in the final draft of the questionnaire and was approved by the panel members during the proposal defense.

The researcher asked permission from the Schools Division Superintendent of Pangasinan I to administer the said questionnaire to the Grade 3 Science teachers who served as respondents of the study.

Tools for Data Analysis

The data that was gathered and collated, tallied and was analyzed and interpreted for the readers to understand better the results obtained.

To answer sub-problems 1 and 2, percentage and frequency counts was used. The formula is:

$$P = \frac{f}{N} \times 100$$

Where:

P = Percentage

F = Frequencies

N = Total number of respondents

For sub-problem 3 – on the problems being met by the Grade 3 Science teachers, Average Weighted Mean was used.

The formula was:

$$AWM = \frac{\sum fx}{N}$$

Where:

AWM = Average Weighted Mean

$\sum fx$ = the sum of the weighted mean

N = number of respondents

CHAPTER 3

PRESENTATION, ANALYSIS AND INTERPRETATION

OF THE DATA

This chapter presents the presentation, analysis and interpretation of the data gathered relative to the different sub-problems in the study.

Profile of the Science Teachers in Terms of Their Highest Educational Attainment, Number of Years of Experience and Relevant In-Service Training Attended

This section presents the profile of the Science teachers in terms of their highest educational attainment, number of years of experience and relevant in-service trainings attended. The data is presented in Table 2 in answer to sub-problem 1.

Table 2

Professional Profile of the Science Grade 3 Teachers in Bolinao District, Division Of Pangasinan I

N = 50

A. Highest Educational Attainment	f	percent
BEED	18	36%
BEED with units in MA	12	24%
BEEEd Academic Requirements in MA	10	20%
Master of Arts in Education	10	20%
Total	50	99.99%
B. Number of Years of Experience as Science Teacher		
0-3 years	20	40%
4-6 years	20	40%
7-12 years	10	20%
Total	50	99.99%
C. Relevant In-Service Trainings Attended		
Regional Level	5	10%

Division Level	20	40%
District Level	25	50%
Total	50	100%

Table 2 presents the profile of the Science Grade 3 teachers in terms of their highest educational attainment, number of years of experience as Science teachers and relevant in-service training attended. It must note in Table 2, the highest educational attainment, majority are graduate of BEED 18 or 36% percent and it was followed by BEEed academic requirements in MA 10 or 20 percent and in the number of experience generally the Grade 3 Science teachers belonged to 0-3 to 7-12 years of experience 20 or 40 percent and they have attended various in-service trainings except national level.

This implies that the Grade 3 Science teachers are still wanting to grow professionally, some are still young in terms of their years of experience and to attend national level conferences called by DepEd higher authorities.

This implies that the Grade 3 Science teachers are still wanting to grow professionally, some are still young in terms of their years of experience and to attend national level conferences called by DepEd higher authorities.

Status of the Implementation of Science in the K-12 Curriculum in Bolinao District, Division of Pangasinan I

This section presents the profile of the implementation of Science in the K-12 curriculum in Bolinao District, Division of Pangasinan I. The data is presented in Table 3 in answer to sub-problem.

Table 3

Profile of the Implementation of Science in the K-12 Curriculum

A. Teaching Strategies	AWM	D.E.
1. Demonstrations	2.60	MI
2. Field Trip	1.60	SI
3. Instructional Material	3.40	MI
4. Discussion	2.40	SI
AWM	2.5	MI
B. Instructional Materials	AWM	D.E.
1. Teachers' Manual	3.20	MI
2. Teachers' Guide	3.20	MI
3. Basic Textbooks	2.20	SI
4. Modules	2.40	SI
5. Activity Cards	2.50	SI
AWM	2.7	SI
C. Assessment of Learning		
1. Teacher Made Test	3.50	I
2. Achievement Test	2.50	MI
3. Summative Test	2.40	SI
AWM	2.8	SI

Legend:

<u>Scale</u>	<u>Range</u>	<u>Descriptive Equivalent (D.E.)</u>
5	4.50-5.00	Well Implemented (WI)
4	3.50-4.49	Implemented (I)
3	2.50-3.49	Moderately Implemented (MI)
2	1.50-2.49	Slightly Implemented (SI)
1	1.00-1.49	Not a Problem (NAP)

Table 3 presents the status of the implementation of Science in the K-12 curriculum along teaching strategies, instructional materials and assessment of learning. The table revealed that the Science teachers generally are using “instructional media” as teaching strategies with average weighted mean of 3.40 which means “moderately implemented”. While in terms of instructional materials, the science teachers revealed the lack of “Basic Textbooks” AWM = 2.20 with a descriptive equivalent of “slightly implemented” and in terms of assessment of learning, it was rated as “Slightly Implemented”.

This means, that there is still need to use the varied teaching strategies to carry-out the lessons in Science with the use of instructional materials particularly on the procurement of the basic textbooks, modules and activity cards. In line with the assessment of learning, the Science teachers must also use varied assessment instruments to improve the level of performance of the Grade 3 learners in Science.

Problems Being Met by the Grade 3 Science Teachers in the Implementation Of Science as a Subject

This section presents the problems being met by the Grade 3 Science teachers in the implementation of Science as a subject in terms of teacher related problem. The data is presented in Table 4 to answer sub-problem 3.

Table 4
Problems Being Met by the Grade 3 Science Teachers in the Implementation of Science as a Subject

A. Pupils Related-Problem	AWM	D.E
1. Frequent Absenteeism	3.60	SP
2. Misbehavior	3.40	MSP
3. Inattentive	3.60	SP
4. Cannot cope with science lessons	2.60	MSP
5. Disturbance of peers	3.40	MSP
AWM	3.32	MSP
B. Teacher Related-Problems		
1. Lack of teacher training in the K-12.	4.40	SP
2. Lack of time to prepare lesson plan.	4.20	SP
3. Too many paper works that hinders preparation of instructional materials.	4.40	SP
4. Lack of instructional materials.	3.20	MSP
AWM	4.05	SP
C. Instructional Materials Related-Problems		
1. Lack of textbooks for pupils to comply with DepEd standards of 1:1 ratio.	4.20	SP
2. Lack of printed materials.	4.20	SP
3. Lack of multi-media instructional materials.	3.60	SP
4. Lack of time to make instructional materials.	3.40	SP
5. Lack of supplies for instructional materials.	4.20	MSP
AWM	3.92	SP

Legend:

<u>Scale</u>	<u>Range</u>	<u>Descriptive Equivalent (D.E.)</u>
5	4.50-5.00	Very Serious Problem (VSP)
4	3.50-4.49	Serious Problem (SP)
3	2.50-3.49	Moderately Serious Problem (MSP)
2	1.50-2.49	Slightly Serious Problem (SSP)
1	1.00-1.49	Not a Problem (NAP)

Table 4 presents the problems being met by the Grade 3 Science teachers in the implementation of Science as a Subject in the K-12 Curriculum. The table revealed the pupil related problems the most “serious problem” and “frequent absenteeism” and “inattentive” with an average weighted means of 3.60. While the teacher related problems “Lack of teachers training in the K-12 curriculum” and too many paper works that hinders preparation of instructional materials” which was rated AWM=4.40 which means “serious problems” and along instructional material related-problem the science teachers identified “Lack of textbooks for pupils to comply with DepEd standards of 1:1 ratio and “Lack of printed materials” with a descriptive equivalent of “serious problem” AWM of 4.20.

This means that the Science teachers met some problems in the implementation of Science as a subject in the K-12 Curriculum which must be addressed and be given possible solutions.

Sample Science Lessons That Met the Criteria in the Implementation of the K-12 Curriculum

This section presents the output of the study which is the development of sample Science lessons that met the criteria in the implementation of the K-12 curriculum to address the needs identified relative to the teaching of science in Grade 3.

The goals of Science as a subject in the K-12 curriculum is to enable the learner to acquire knowledge, gain skills and develop attitudes that can insure science and technology literacy and self-reliance as well as in-depth understanding that can lead to further science pursuits. It is a recognized facts that every classroom encounter is a product of significant factors of the learning environment such as ability of the pupils, background information previously learned, availability of instructional materials and other facilities in the science room. With this concept, it can be said that the teacher is in the best position to make proper decision to facilitate her lesson, since she is the most familiar with the characteristics of his pupils, including their needs, interest and attitudes.

And so, it is for this reason, that the researcher was motivated to developed a sample lesson plan for Grade 3 learners and hopefully that the Grade 3 Science teachers will also be

CHAPTER 4

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter presents the summary of findings, the conclusion drawn and the recommendations offered relative to the different sub-problems raised in the study.

SUMMARY

This study used the descriptive method of research with the use of a questionnaire as the data gathering instrument in the development of proposed sample science lessons for Grade 3 learners in the implementation of the K-12 curriculum during the school years 2024-2025. The study included the profile of the Science teachers in term of mentioned variables, the profile of the implementation of Science in the K-12 curriculum in Bolinao District, Division of Pangasinan I in terms of teaching strategies, instructional materials and assessment of learning and the problems being met by the Grade 3 science teachers in the implementation of Science as a subject along teacher, pupil and instructional materials related problems. The output of this study are proposed sample lessons to Grade 3 learners in the implementation of the K-12 curriculum. Frequency and percentage and average weighted mean was used to treat the statistically the different sub-problems used in the study. The twenty (25) Grade 3 Science teachers served as respondents.

Findings

1.0. Professional Profile of the Grade 3 Science Teachers in Bolinao District, Division of Pangasinan I

- 1.1. In terms of highest educational attainment, majority of them are BEED graduate 18 or 40.00 percent.
- 1.2. Along the number of years of experience of the Grade 3 Science teachers, they belong 0-3, 4-6 and 7-12 years 15 or 33.33 percent.
- 1.3. In terms of the relevant in-service trainings attended in Science majority of them have attended various in-service trainings from the regional, division and district level except the national level.

2.0. Status of the Implementation of Science in the K-12 Curriculum in Bolinao District, Division of Pangasinan I

- 2.1. In Terms of teaching strategies the average weighted mean is 2.5 with a descriptive equivalent of “Moderately Implemented”.
- 2.2. In terms of instructional materials used by the Grade 3 Science teachers, the average weighted mean is 2.7 which means “slightly implemented”.

2.3. Along learning assessment, it was found out to a “Seriously Implemented”.

3.0. Problems Being met by the Science Teachers in the Implementation of the K-12 Curriculum

- 3.1. Along teacher related-problem, the lack of teacher training in the K-12 and too many paper works which hinders preparation of instructional materials as evidence of an average weighted mean of 4.40 meaning “Serious Problems”.
- 3.2. In terms of pupil related problems, frequent absenteeism and inattentiveness with AWM of 3.60 were among “Serious Problem”
- 3.3. In terms of instructional materials related problems, the following were cited as the lack of textbook for pupils to comply with the DepEd standard of 1:1 ratio with AWM of 4.20 and rated as “Serious Problem”.

CONCLUSIONS

Based on the findings made, the following conclusions were drawn:

1. The professional profile of the Grade 3 Science teachers can still be updated.
2. The implementation of Science in Grade 3 in the K-12 curriculum can still be improved.
3. There are still serious problems being met by the Grade 3 Science teachers in the implementation of Science as a subject in the K-12 curriculum.

RECOMMENDATIONS

Based from the conclusions drawn, the following recommendations are hereby offered.

1. The Grade 3 Science teachers in Bolinao District, Division of Pangasinan must be updated by way of attending in the Graduate Program, in-service trainings called by DepEd higher authorities.
2. The profile in the implementation of Science particularly the instructional materials, can be procured through the MOOE of school administrators.
3. The problems being met by the Grade 3 Science teachers should be forwarded to the DepEd authorities for possible solutions.
4. The proposal sample lessons should be reproduced for use by the Grade 3 Science teachers and be approved by the Schools Division Superintendent

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APPENDIX A

LETTER OF REQUEST FOR PERMISSION TO CONDUCT THE STUDY

Republic of the Philippines

DEPARTMENT OF EDUCATION

REGION I

DIVISION OF PANGASINAN

BOLINAO DISTRICT

Bolinao, Pangasinan

FATIMA R. BOADO, Ed. D.

Schools Division Superintendent

Division of Pangasinan I

Lingayen

Madam:

The undersigned is presently conducting a research study entitled “**SAMPLE SCIENCE LESSONS FOR GRADE 3 LEARNERS IN THE IMPLEMENTATION OF THE K-12 CURRICULUM**” in partial fulfilment of the requirements for the degree Master of Arts in Education at Lyceum North-western University, Institute of Graduate and Professional Studies, Dagupan City.

In line with this, the researcher I would like to request permission from your good office to administers a questionnaire duly approved by the Dean of Institute of Graduate and Professional Studies of the Lyceum-Northwestern University, Dagupan City and the panel members during the proposal defense. The intended respondents of the study are the Grade 3 Science teachers in Bolinao District, Division of Pangasinan I.

Your kind consideration and approval of the above cited request is very much appreciated.

Very truly yours,
(Sgd.) **Lyzlie T. Cañedo**
Researcher

Noted:
(Sgd) **CHRISTOPHER A. DE VERA, Ed.D.**
Thesis Adviser

APPROVED:
(Sgd) **FATIMA R. BOADO, Ed.D**
Schools Division Superintendent

APPENDIX B

LETTER TO THE RESPONDENTS

Dear Respondents,

The undersigned is presently conducting a research work entitled “**SAMPLE SCIENCE LESSONS FOR GRADE 3 LEARNERS IN THE IMPLEMENTATION OF THE K-12 CURRICULUM**” in partial fulfillment of the requirements for the degree **MASTER OF ARTS IN EDUCATION** at the Lyceum-Northwestern University, Dagupan City for the school year 2024-2025.

In this connection, kindly help the researcher by way of accomplishing the questionnaire as her data gathering instrument. Rest assured that your responses will be kept with strict confidentiality.

Thank you very much.

Very truly yours,

(Sgd.) **Lyzlie T. Cañedo**

APPENDIX C

QUESTIONNAIRE FOR THE GRADE 3 SCIENCE TEACHERS

Part I. Professional Profile of the Grade 3 Science Teachers in the Public Elementary Schools In Bolinao District.

1. Highest Educational Attainment

_____ BEED

_____ BSE with units in BEEd

_____ Academic Requirements in Master of Arts in Education

_____ Units in Master of Art in Education

_____ Master of Arts in Education

_____ Other (please specify)

2. Length of Experience as Physical Education Teacher

_____ 1 to 5 years

_____ 6 to 10 years

_____ 11 to 15 years

_____ Other (please specify)

3. Relevant In-Service Training Attended in Physical Education

_____ National Level

_____ Regional Level

_____ Division Level

_____ District Level

_____ School Level

Part II. Problems Being Met by the Grade 3 Science Teachers in the Implementation of Science as a Subject in the K-12 Curriculum

<u>Scale</u>	<u>Range</u>	<u>Descriptive Equivalent (D.E.)</u>
5	4.50-5.00	Very Serious Problem (VSP)
4	3.50-4.49	Serious Problem (SP)
3	2.50-3.49	Moderately Serious Problem (MSP)
2	1.50-2.49	Slightly Serious Problem (SSP)
1	1.00-1.49	Not a Problem (NAP)

A. Pupil-Related Problem	VSP (5)	SP (4)	MSP (3)	SSP (2)	NAP (1)
1. Frequent Absenteeism					
2. Misbehavior					
3. Inattentive					
4. Cannot cope with science lessons					
5. Disturbance of peers					
6. Others (please specify)					
B. Teacher-Related Problems					
1. Lack of teacher training in the K-12					
2. Lack of tie to prepare lesson plan.					
3. Too many papers works that hinders preparation of instructional materials.					
C. Instructional Materials Related-Problem					
1. Lack of textbooks for pupils to comply with DepEd standards of 1:1 ratio					
2. Lack of printed materials					
3. Lack of multimedia instructional materials					
4. Lack of time to make instructional materials					
5. Lack of supplies for instructional materials					