UTILIZATION OF PROBLEM-BASED LEARNING OF SCIENCE TEACHERS OF SELECTED PUBLIC ELEMENTARY SCHOOLS IN MALASIQUI II DISTRICT

Roselle V. Nevado
LYCEUM-NORTHWESTERN UNIVERSITY DAGUPAN CITY, PHILIPPINES
https://lyceum.edu.ph

Abstract

This study sought to determine the extent of utilization of problem-based learning of the science teachers of selected public elementary schools in Malasiqui Il District during the School Year 2025-2026 through a descriptive-correlational-developmental research design. The data used in this study came from the 170 science teachers and 14 school heads which were subjected to frequency count, percentage, weighted mean, and the chi-square test of independence. Results showed that: majority of the science teachers have no post-graduate degrees, have been teaching for more than 10 years already, and have attended not more than three trainings related with problem-based learning for the past five years; the science teachers perceived that they are almost always utilizing problem-based learning as evidenced by the computed overall weighted mean of 4.11 while the school heads perceived that the science teachers are only sometimes utilizing problem-based learning as evidenced by the computed overall weighted mean of 2.77; there is a significant difference between the perceptions of the science teachers and the school heads on the extent of utilization of problem-based learning of the science teachers; and, there is a significant relationship between the highest educational attainment, length of teaching experience, number of trainings related with problem-based learning attended of the science teachers and the extent of their utilization of problem-based learning. Given the findings, the following conclusions were drawn: a typical science teacher of the selected public elementary schools in Malasiqui II District has no post-graduate degree, has been teaching for more than 10 years already, and has attended not more than three trainings related with problem-based learning for the past five years; the science teachers perceived that they are almost always utilizing problem-based learning while their school heads perceived that they are only sometimes utilizing it; the science teachers and the school heads have significantly different perceptions on the extent of utilization of problem-based learning of the science teachers; and, the extent of utilization of problem-based learning of the science teachers is influenced by their highest educational attainment, the length of teaching experience, and the number of trainings related with problem-based learning attended for the past five years.

Keywords: *problem-based learning, science teachers*

Introduction

The increasing emphasis on developing twenty-first-century skills has transformed the landscape of science education, requiring teachers to adopt instructional approaches that promote critical thinking, collaboration, creativity, and problem-solving. As educational reforms continue

ISSN 3028-2586 (Print) · ISSN 3155-6876 (Online) · erfresearch.com

to encourage learner-centered teaching, science teachers are expected to move beyond traditional lecture-based instruction and engage learners in meaningful, inquiry-driven experiences. Among the strategies recognized for achieving these goals is Problem-Based Learning, which provides learners with authentic and contextualized problems that stimulate active participation and deeper understanding. However, despite its recognized effectiveness, the successful implementation of problem-based learning depends largely on teachers' knowledge, readiness, and ability to integrate it into everyday classroom instruction.

In public elementary schools, science teachers are encouraged to adopt learner-centered instructional approaches that promote active participation and meaningful learning. However, the implementation of Problem-Based Learning may be influenced by various classroom realities, including limited instructional resources, time constraints, teachers' readiness, and the diverse learning needs of pupils. These factors may affect how Problem-Based Learning is integrated into science instruction. In the context of public elementary schools in Malasiqui II District, there is limited local information regarding the extent to which science teachers utilize Problem-Based Learning in their classrooms. Examining its use within this setting is essential to gain a clearer understanding of current instructional practices and identify areas for improvement.

This study seeks to examine the use of Problem-Based Learning among science teachers in public elementary schools in Malasiqui II District to gain a better understanding of its current implementation and the factors that influence its utilization. By generating localized empirical evidence, the study aims to contribute to the existing body of knowledge on learner-centered science instruction and serve as a basis for strengthening instructional practices and teacher professional development. Ultimately, the findings are expected to support science teachers, school administrators, and education leaders in promoting the effective integration of Problem-Based Learning to improve the quality of science education and foster meaningful learning experiences among elementary learners.

METHODOLOGY

Research Design

This study employed the quantitative-descriptive method of research. It described the science teachers of the selected public elementary schools in Malasiqui II District in terms of highest educational attainment, length of teaching experience, and number of relevant seminars/trainings attended as well as determine the extent of their utilization of problem-based learning. The study also utilized the correlational research design for it determined if there is a significant difference between the perceptions of the science teachers and their school heads on the extent of usage of problem-based learning of the science teachers and if there is a significant relationship between the profile variables of the science teachers and the extent of their usage of problem-based learning.

Moreover, the developmental method of research was also used for the study came up with a proposed innovative training program on problem-based learning for the science teachers of the selected public elementary schools in Malasiqui II District.

Sources of Data

Research Setting. This study was conducted in selected public elementary schools in Malasiqui II District during the School Year 2025-2026.

ISSN 3028-2586 (Print) · ISSN 3155-6876 (Online) · erfresearch.com

Sampling. There were two groups of respondents in this study, namely, the science teachers and the school heads of the selected public elementary schools in Malasiqui II District. All the 170 science teachers and 14 school heads of the selected public elementary schools in Malasiqui II District were made as respondents. Accordingly, no sampling was done. The distribution of the science teachers in the selected public elementary schools is presented un Table 1.

TABLE 1
Distribution of the Science Teachers per the Selected Public Elementary School

Public Elementary Schools	Number of Teachers	Percentage
Aliaga Elementary School	14	8%
Bakitiw Elementary School	12	7%
BIBA Elementary School	12	7%
Bongar Elementary School	9	5%
Cabatling Elementary School	9	5%
Canan Elementary School	15	9%
Don Pedro Elementary School	12	7%
Malimpec Elementary School	14	8%
Nalsian Tomiling Elementary School	15	9%
Olea Elementary School	12	7%
Talospatang Elementary School	21	13%
Tobor Elementary School	10	6%
IBA Elementary School	6	4%
Bernabe Q. Jimenez Elementary School	9	5%
Total	170	100%

Research Participants. As mentioned, all the 170 science teachers and 14 school heads of the selected public elementary schools in Malasiqui II District were made as respondents of the study. The science teachers provided data relative to their highest educational attainment, length of teaching experience, number of relevant trainings they attended, and the extent of their utilization of problem-based learning. Meanwhile, the school heads provided data with respect to the extent of utilization of problem-based learning of the science teachers.

Instrumentation and Data Collection

Instrumentation. The data utilized in this study were gathered through two survey-questionnaires, one for the science teachers and one for the school heads.

The survey-questionnaire for the science teachers had two parts. The first part focused on the profile of the science teachers of the selected public elementary schools in Malasiqui II District in terms of the highest educational attainment, length of teaching experience, and the number of relevant trainings attended; and, the second part focused on the extent of utilization of problem-based learning of the science teachers.

On the other hand, the survey-questionnaire for the school heads simply focused on the extent of utilization of problem-based learning of the science teachers.

Trustworthiness. The items in the first part of the survey-questionnaire which is about the profile of the science teachers is common in research. Hence, no validation is required.

ISSN 3028-2586 (Print) · ISSN 3155-6876 (Online) · erfresearch.com

With respect to the second part of the survey-questionnaire which is about the extent of utilization of problem-based learning of the science teachers, the items were based from the survey-questionnaire of Borromeo (2025) in his study entitled "Utilization of Problem-Based Learning in Mathematics in Malasiqui II District." The items in this survey-questionnaire were validated by the researcher and, hence, are considered valid and reliable.

Data Collection. In collecting the data needed in the study, the researcher personally administered the survey-questionnaire to the science teachers and school heads giving them three weeks to answer. After three weeks, the researcher retrieved the survey-questionnaire.

Ethical Considerations. So as not to violate the data privacy of the science teachers and the school heads, permission to conduct the study was first secured from the Schools Division Superintendent of Pangasinan I. Thereafter, informed consent was taken from the science teachers and the school heads.

Moreover, the researcher treated the data gathered with utmost confidentially and were used only for the purpose of answering the research questions of the study in accordance with the Data Privacy Act of the Philippines. Likewise, authors of researches, articles, and other scholar works used in this study were cited, properly acknowledged, and documented.

Tools for Data Analysis

To determine the profile of the science teachers of the selected public elementary schools in Malasiqui II District, the data gathered were subjected to frequency count employing the formula:

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

where:

P = the computed percentage
f = the observed frequency
N = total number of subject cases

To determine the extent of utilization of problem-based earning of the science teachers, the weighted mean was used employing the formula:

$$WM = \frac{\sum wX}{\sum w}$$

where:

WM = weighted mean
$\sum$ = summation
W = weighing factor
X = frequency.

Moreover, the weighted means computed were interpreted using this scale of interpretation:

never	=	1.00 – 1.49
almost never	=	1.50 – 2.49
sometimes	=	2.50 – 3.49
almost always	=	3.50 – 4.49
always	=	4.50 – 5.00.

ISSN 3028-2586 (Print) · ISSN 3155-6876 (Online) · erfresearch.com

To determine if there is a significant difference between the perceptions of the science teachers and the school heads on the extent of utilization of problem-based learning of the science teachers, the t-test was utilized.

Lastly, to determine the relationship between the profile variables of the science teachers and the extent of their utilization of problem-based learning, the chi square test of independence was used.

RESULTS AND DISCUSSION

The Profile of the Intermediate Teachers

This section presents the profile of the science teachers in the selected public elementary schools in Malasiqui II District to answer the first problem of the study.

On Highest Educational Attainment

In relation to highest educational attainment, the science teachers were provided with five choices: "bachelor's degree," "completed academic requirements in the master's degree," "master's degree," "completed academic requirements in the doctorate degree," and "doctorate degree." Table 2 indicates the results.

TABLE 2
Distribution of the Science Teachers in terms of Highest Educational Attainment

Educational Attainment	Frequency	Percentage
Bachelor's Degree	63	37%
Completed academic requirements in the Master's Degree	49	29%
Master's Degree	45	26%
Completed academic requirements in the Doctorate Degree	7	4%
Doctorate Degree	6	4%
Total	170	100

As revealed in Table 2, 63 or 37% of the science teachers are bachelor's degree holders, 49 or 29% have completed the academic requirements in the master's degree, 45 or 26% are master's degree holders, seven or 4% have completed the academic requirements for in doctorate degree, and six or 4% are doctorate degree holders. As can be noted, majority of the science teachers have no post-graduate degree.

On Length of Teaching Experience

As regards the length of teaching experience, the science teachers were provided with four choices, scilicet, "1 to 5 years," "6 to 10 years," "11 to 15 years," and "more than 15 years." Table 3 presents the results.

TABLE 3
Distribution of the Science Teachers in terms of Length of Teaching Experience

Length of Experience	Frequency	Percentage

ISSN 3028-2586 (Print) · ISSN 3155-6876 (Online) · erfresearch.com

1 to 5 years	25	15%
6 to 10 years	41	24%
10 to 15 years	48	28%
more than 15 years	56	33%
Total	170	100%

As presented in Table 3, 25 or 15% of the science teachers have been teaching for one to five years already, 41 or 24% have been teaching for five to ten years already, 48 or 28% have been teaching for 11 to 15 years already, and 56 or 33% have been teaching for more than 15 years already. As noted, majority of the science teachers have been teaching for more than 10 years already.

On Number of Trainings Related with Problem-Based Learning Attended

In relation to the number of trainings related with problem-based learning attended by the science teachers for the past five years, the science teachers were provided with three choices, scilicet, "have not attended any trainings related with problem-based learning for the past five years," "have attended not more than three trainings related with problem-based learning for the past five years," and "have attended more than three trainings related with problem-based learning for the past five years." Table 4 presents the results.

TABLE 4
Distribution of the Science Teachers in terms of Number of Relevant Trainings Attended

Number of Trainings Attended	Frequency	Percentage
Have not attended any training related with problem-based learning for the past five years	0	0%
Have attended not more than three trainings related with problem-based learning for the past five years	127	75%
Have attended more than three trainings related with problem-based learning for the past five years	43	25%
Total	170	100%

As revealed in Table 4, 127 or 75% of the science teachers have attended not more than three trainings related with problem-based learning for the past five years and 43 or 25% have attended more than three trainings for the past five years. As can be noted, majority of the science teachers have attended not more than three trainings related with problem-based learning for the past five years.

ISSN 3028-2586 (Print) · ISSN 3155-6876 (Online) · erfresearch.com

The Extent of Utilization of Problem-Based Learning of the Science Teachers

This section provides answers to the second sub-problem of the study which is about the extent of utilization of problem-based learning of the science teachers as perceived by the science teachers themselves and the school heads.

To provide answers to the sub-problem, the science teachers and the school heads were asked to rate the extent of utilization of problem-based learning of the science teachers.

Assessment of the Science Teachers

The assessment of the science teachers on the extent of their utilization of problem-based learning is presented in Table 5.

As shown in Table 5, when inquired as to the extent to which, in class, they create problems which pupils may encounter in the future, 25 of the science teachers replied "sometimes," 101 replied "almost always," and 44 replied "always." The weighted mean computed here is 4.11 which is leading to "almost always" in the scale.

When queried as to the extent to which they let their pupils examine and define problems, 24 of the science teachers said "sometimes," 92 said "almost always," and 54 said "always." Here, the weighted mean computed is 4.18 which is pointing to "almost always."

TABLE 5
The Assessment of the Science Teachers on the Extent of Their Utilization of Problem-Based Learning

Assessment Items	Responses					WM	DE
	NE	AN	SO	AA	AL		
1. In class, I create problems which pupils may encounter in the future.	0	0	25	101	44	4.11	AA
2. I let my pupils examine and define problems.	0	0	24	92	54	4.18	AA
3. In group works, I assign a leader who acts as referee for each of the group.	0	0	19	92	59	4.24	AA
4. I provide real-world problems which my pupils have to solve in groups.	0	0	18	103	49	4.18	AA
5. I articulate the learning outcomes in any class activity.	0	0	20	111	39	4.11	AA
6. I let my pupils explore what they already know about underlying issues related to it	0	0	24	112	34	4.06	AA
7. I let the groups in my class to work independently in solving problems.	0	0	27	102	41	4.08	AA
8. I make it sure that members of the groups will critically examine problems and articulate solutions to them.	0	0	25	101	44	4.11	AA

ISSN 3028-2586 (Print) · ISSN 3155-6876 (Online) · erfresearch.com

9. In groups, I let my pupils make friendly communication with other pupils through sharing their ideas with each other in the group discussion.	0	0	25	105	40	4.09	AA
10. I establish ground rules at the beginning to prepare students to work effectively in groups.	0	0	25	114	31	4.04	AA
11. I let pupils determine what they need to learn and where they can acquire the information and tools necessary to solve problems.	0	0	23	115	32	4.05	AA
12. I let my pupils in groups to research on information to solve problems.	0	0	25	108	37	4.07	AA
13. I introduce students to group processes.	0	0	27	106	37	4.06	AA
14. I let my pupils evaluate possible ways to solve problems.	0	0	25	108	37	4.07	AA
15. The problems I use in class make my pupils motivated to seek out a deeper understanding of the concepts.	0	0	23	101	46	4.14	AA
16. I make and use rubric to assess assignments of pupils.	0	0	22	88	60	4.22	AA
17. I let my pupils solve problems.	0	0	22	92	56	4.20	AA
18. I make my pupils work in teams to solve problems.	0	0	20	91	59	4.23	AA
19. The problems I give in class provide pupils with some clues to make reasoned decisions and fit into the key of problem-solving.	0	0	27	93	50	4.14	AA
20. I do some warm up exercises to allow pupils to practice assessing both their own work and that of their peers.	0	0	24	107	39	4.09	AA
21. I let my pupils report on their findings.	0	0	27	102	41	4.08	AA
22. The problems I give in class have relevant content in such a way as to connect it to the pupils' lives, experiences, or prior knowledge.	0	0	15	111	44	4.17	AA
23. While in group, I make it sure that pupils strongly cooperate as a team to solve problems.	0	0	28	107	35	4.04	AA
24. I make pupils take on different roles or divide up the work up among themselves.	0	0	22	118	30	4.05	GE

ISSN 3028-2586 (Print) · ISSN 3155-6876 (Online) · erfresearch.com

25. In groups, I require my pupils to assume require various perspectives, such as those of government officials, local business owners, and others to solve problems.	0	0	24	112	34	4.06	AA
26. The problem I give to my class are complex enough to ensure that the pupils can work together to solve it.	0	0	23	117	30	4.04	AA
27. I explain the problems and introduce in some steps so that it will help students to identify the learning issues.	0	0	21	111	38	4.10	AA
					OWM	4.11	AA

Legend:

WM = weighted mean
DE = descriptive equivalent
OWM = overall weighted mean

Scale:

NE	=	never	=	1.00 – 1.49
AN	=	almost never	=	1.50 – 2.49
SO	=	sometimes	=	2.50 – 3.49
AA	=	almost always	=	3.50 – 4.49
AL	=	always	=	4.50 – 5.00

When asked as to the extent to which, in group works, they assign a leader who acts as referee for the group, 19 of the science teachers responded "sometimes," 92 responded "almost always," and 59 responded “always.” In this item, the weighted mean computed is 4.24 which is indicative of “almost always” in the scale.

When questioned as to the extent to which they provide real-world problems which their pupils have to solve in groups, 18 of the science teachers claimed “sometimes," 103 claimed “almost always,” and 49 claimed “always.” The weighted mean computed here is 4.18 which has a descriptive equivalent of “almost always.”

Questioned as to the extent to which they articulate the learning outcomes in any class activity, 20 of the science teachers checked “sometimes,” 111 checked “almost always,” and 39 checked “always.” Here, the weighted mean computed is 4.11 which is “almost always” in the scale.

Queried as to the extent to which they let their pupils explore what they already know about underlying issues related to it, 24 of the science teachers mentioned “sometimes,” 112 mentioned “almost always,” and 34 mentioned “always.” In this item, the weighted mean computed is 4.06 which is leading to “almost always.”

Asked as to the extent to which they let the groups in their class to work independently in solving problems, 27 of the science teachers responded “sometimes,” 102 responded “almost always,” and 41 responded “always.” The weighted mean computed here is 4.08 which is pointing to “almost always.”

Inquired as to the extent to which they make it sure that members of the groups will critically examine problems and articulate solutions to them, 25 of the science teachers said

ISSN 3028-2586 (Print) · ISSN 3155-6876 (Online) · erfresearch.com

"sometimes," 101 said "almost always," and 44 said "always." In this item, the weighted mean computed is 4.11 which is indicative of "almost always" in the scale.

When questioned as to the extent to which, in groups, they let their pupils make friendly communication with other pupils through sharing their ideas with each other in the group discussion, 25 of the science teachers claimed "sometimes," 105 claimed "almost always," and 40 claimed "always." The weighted mean computed here is 4.09 which is leading to "almost always."

When inquired as to the extent to which they establish ground rules at the beginning to prepare students to work effectively in groups, 25 of the science teachers replied "sometimes," 114 replied "almost always," and 31 replied "always." In this item, the weighted mean computed is 4.04 which has a descriptive equivalent of "almost always" in the scale.

When asked as to the extent to which they let pupils determine what they need to learn and where they can acquire the information and tools necessary to solve problems, 23 of the science teachers indicated "sometimes," 115 indicated "almost always," and 32 indicated "always." The weighted mean computed here is 4.05 which is leading to "almost always" in the scale.

When questioned as to the extent to which they let their pupils in groups to research on information to solve problems, 25 of the science teachers said "sometimes," 108 said "almost always," and 37 said "always." The weighted mean computed in this item is 4.07 which is indicative of "almost always."

Queried as to the extent to which they introduce students to group processes, 27 of the science teachers ticked "sometimes," 106 ticked "almost always," and 37 ticked "always." The weighted mean computed here is 4.06 which is pointing to "almost always" in the scale.

Inquired as to the extent to which they let their pupils evaluate possible ways to solve problems, 25 of the science teachers said "sometimes," 108 said "almost always," and 37 said "always." In this item, the weighted mean computed is 4.07 which has a descriptive equivalent of "almost always."

Queried as to the extent to which the problems t use in class make their pupils motivated to seek out a deeper understanding of the concepts, 23 of the science teachers responded "sometimes," 101 responded "almost always," and 46 responded "always." Here, the weighted mean computed is 4.14 which is reflective of "almost always" in the scale.

Asked as to the extent to which they make and use rubric to assess assignments of pupils, 22 of the science teachers checked "sometimes," 88 checked "almost always," and 60 checked "always." The weighted mean computed in this item is 4.22 which is indicative of "almost always" in the scale.

When questioned as to the extent to which they let their pupils solve problems, 22 of the science teachers mentioned "sometimes," 92 mentioned "almost always," and 56 mentioned "always." Here, the weighted mean computed is 4.20 which is leading to "almost always."

When asked as to the extent to which they make their pupils work in teams to solve problems, 20 of the science teachers claimed "sometimes," 91 claimed "almost always," and 59 claimed "always." The weighted mean computed in this item is 4.23 which is "almost always" in the scale.

When queried as to the extent to which the problems they give in class provide pupils with some clues to make reasoned decisions and fit into the key of problem-solving, 27 of the science teachers replied "sometimes," 93 replied "almost always," and 50 replied "always." The weighted mean computed here is 4.14 which is pointing to "almost always" in the scale.

When inquired as to the extent to which they do some warm up exercises to allow pupils to practice assessing both their own work and that of their peers, 24 of the science teachers

ISSN 3028-2586 (Print) · ISSN 3155-6876 (Online) · erfresearch.com

responded “sometimes,” 107 responded “almost always,” and 39 responded “always.” Here, the weighted mean computed is 4.09 which is moving towards “almost always.”

When queried as to the extent to which they let their pupils report on their findings, 27 of the science teachers ticked “sometimes,” 102 ticked “almost always,” and 41 ticked “always.” In this item, the weighted mean computed is 4.08 which is pointing to “almost always” in the scale.

Questioned as to the extent to which the problems they give in class have relevant content in such a way as to connect it to the pupils’ lives, experiences, or prior knowledge, 15 of the science teachers claimed “sometimes,” 111 claimed “almost always,” and 44 claimed “always.” The weighted mean computed here is 4.17 which is leading to “almost always” in the scale.

Queried as to the extent to which, while in group, they make it sure that pupils strongly cooperate as a team to solve problems, 28 of the science teachers said “sometimes,” 107 said “almost always,” and 35 said “always.” The weighted mean computed in this item is 4.04 which is pointing to “almost always” in the scale.

Inquired as to the extent to which they make pupils take on different roles or divide up the work up among themselves, 22 of the science teachers indicated “sometimes,” 118 indicated “almost always,” and 30 indicated “always.” Here, the weighted mean computed is 4.05 which is indicative of “almost always” in the scale.

Questioned as to the extent to which, in groups, they require their pupils to assume require various perspectives, such as those of government officials, local business owners, and others to solve problems, 24 of the science teachers claimed “sometimes,” 112 claimed “almost always,” and 34 claimed “always.” Here, the weighted mean computed is 4.06 which is leading to “almost always” in the scale.

Asked as to the extent to which the problem they give to their class are complex enough to ensure that the pupils can work together to solve it, 23 of the science teachers mentioned “sometimes,” 117 mentioned “almost always,” and 30 mentioned “always.” In this item, the weighted mean computed is 4.04 which is “almost always” in the scale.

Finally, when questioned as to the extent to which they explain the problems and introduce in some steps so that it will help students to identify the learning issues, 21 of the science teachers checked “sometimes,” 111 checked “almost always,” and 38 checked “always.” The weighted mean computed here is 4.10 which is reflective of “almost always” in the scale.

Moreover, the computed overall weighted man is 4.11 which has a descriptive equivalent of “almost always.” This implies that the science teachers perceived that they are almost always utilizing problem-based learning.

Assessment of the
School Heads

The assessment of the school heads on the extent of utilization of problem-based learning of the science teachers is presented in Table 6.

As shown in Table 6, when inquired as to the extent to which, in class, their science teachers create problems which pupils may encounter in the future, two of the school heads replied “almost never,” 11 replied “sometimes,” and one replied “almost always.” The weighted mean computed here is 2.93 which is leading to “sometimes” in the scale.

TABLE 6
The Assessment of the School Heads on the Extent of Utilization of Problem-Based Learning of the Science Teachers

Assessment Items	Responses	WM	DE

ISSN 3028-2586 (Print) · ISSN 3155-6876 (Online) · erfresearch.com

My science teachers, ….	NE	AN	SO	AA	AL		
1. in class, create problems which pupils may encounter in the future.	0	2	11	1	0	2.93	SO
2. let their pupils examine and define problems.	0	4	8	2	0	2.86	SO
3. in group works, assign a leader who acts as referee for each of the group.	0	5	9	0	0	2.64	SO
4. provide real-world problems which their pupils have to solve in groups.	0	3	9	2	0	2.93	SO
5. articulate the learning outcomes in any class activity.	0	3	10	1	O	2.86	SO
6. let their pupils explore what they already know about underlying issues related to it.	0	2	11	1	0	2.93	SO
7. let the groups in their class to work independently in solving problems.	0	4	8	2	0	2.86	SO
8. make it sure that members of the groups will critically examine problems and articulate solutions to them.	0	5	7	2	0	2.79	SO
9. in groups, let their pupils make friendly communication with other pupils through sharing their ideas with each other in the group discussion.	0	5	7	2	0	2.79	SO
10. establish ground rules at the beginning to prepare students to work effectively in groups.	0	5	7	2	0	2.79	SO
11. let pupils determine what they need to learn and where they can acquire the information and tools necessary to solve problems.	0	5	8	1	0	2.71	SO
12. let their pupils in groups to research on information to solve problems.	0	4	9	1	0	2.79	SO
13. introduce students to group processes.	0	5	9	0	0	2.64	SO
14. let their pupils evaluate possible ways to solve problems.	0	5	9	0	0	2.64	SO
15. use problems in class that make their pupils motivated to seek out a deeper understanding of the concepts.	0	4	10	0	0	2.71	SO
16. make and use rubric to assess assignments of pupils.	0	4	8	2	0	2.86	SO
17. let their pupils solve problems.	0	5	7	2	0	2.79	SO
18. make their pupils work in teams to solve problems.	0	5	7	2	0	2.79	SO

ISSN 3028-2586 (Print) · ISSN 3155-6876 (Online) · erfresearch.com

19. give problems in class that provide pupils with some clues to make reasoned decisions and fit into the key of problem-solving.	0	5	7	2	0	2.79	SO
20. do some warm up exercises to allow pupils to practice assessing both their own work and that of their peers.	0	4	8	2	0	2.86	SO
21. let their pupils report on their findings.	0	6	7	1	0	2.64	SO
22. give problems in class that have relevant content in such a way as to connect it to the pupils' lives, experiences, or prior knowledge.	0	5	8	1	0	2.71	SO
23. while in group, make it sure that pupils strongly cooperate as a team to solve problems.	0	4	9	1	0	2.79	SO
24. make pupils take on different roles or divide up the work up among themselves.	0	6	8	0	0	2.57	SO
25. in groups, require their pupils to assume require various perspectives, such as those of government officials, local business owners, and others to solve problems.	0	5	9	0	0	2.64	SO
26. give problems in class that are complex enough to ensure that the pupils can work together to solve it.	0	6	8	0	0	2.57	SO
27. explain the problems and introduce in some steps so that it will help students to identify the learning issues.	0	3	9	2	0	2.93	SO
					OWM	2.77	SO

Legend:

WM = weighted mean
DE = descriptive equivalent
OWM = overall weighted mean

Scale:

NE	=	never	=	1.00 – 1.49
AN	=	almost never	=	1.50 – 2.49
SO	=	sometimes	=	2.50 – 3.49
AA	=	almost always	=	3.50 – 4.49
AL	=	always	=	4.50 – 5.00

When queried as to the extent to which their science teachers let their pupils examine and define problems, four of the school heads said "almost never," eight said "sometimes," and two said "almost always." Here, the weighted mean computed is 2.86 which is pointing to "sometimes."

ISSN 3028-2586 (Print) · ISSN 3155-6876 (Online) · erfresearch.com

When asked as to the extent to which, in group works, their science teachers assign a leader who acts as referee for the group, five of the school heads responded "almost never" and nine responded "sometimes." In this item, the weighted mean computed is 2.64 which is indicative of "sometimes" in the scale.

When questioned as to the extent to which their science teachers provide real-world problems which their pupils have to solve in groups, three of the school heads claimed "almost never," nine claimed "sometimes," and two claimed "almost always." The weighted mean computed here is 3.93 which has a descriptive equivalent of "sometimes."

Questioned as to the extent to which their science teachers articulate the learning outcomes in any class activity, three of the school heads checked "almost never," ten checked "sometimes," and one checked "almost never." Here, the weighted mean computed is 2.86 which is "sometimes" in the scale.

Queried as to the extent to which their science teachers let their pupils explore what they already know about underlying issues related to it, two of the school heads mentioned "almost never," 11 mentioned "sometimes," and one mentioned "almost always." In this item, the weighted mean computed is 2.93 which is leading to "sometimes."

Asked as to the extent to which their science teachers let the groups in their class to work independently in solving problems, four of the school heads responded "almost never," eight responded "sometimes," and two responded "almost always." The weighted mean computed here is 2.86 which is pointing to "sometimes."

Inquired as to the extent to which their science teachers make it sure that members of the groups will critically examine problems and articulate solutions to them, five of the school heads said "almost never," seven said "sometimes," and two said "almost always." In this item, the weighted mean computed is 2.79 which is indicative of "sometimes" in the scale.

When questioned as to the extent to which, in groups, their science teachers let their pupils make friendly communication with other pupils through sharing their ideas with each other in the group discussion, five of the school heads claimed "almost never," seven claimed "sometimes," and two claimed "almost always." The weighted mean computed here is 2.79 which is leading to "sometimes."

When inquired as to the extent to which their science teachers establish ground rules at the beginning to prepare students to work effectively in groups, five of the school heads replied "almost never," seven replied "sometimes," and two replied "almost always." In this item, the weighted mean computed is 2.79 which has a descriptive equivalent of "sometimes" in the scale.

When asked as to the extent to which their science teachers let pupils determine what they need to learn and where they can acquire the information and tools necessary to solve problems, five of the school heads indicated "almost never," eight indicated "sometimes," and one indicated "almost always." The weighted mean computed here is 2.71 which is leading to "sometimes" in the scale.

When questioned as to the extent to which their science teachers let their pupils in groups to research on information to solve problems, four of the school heads said "almost never," nine said "sometimes," and one said "almost always." The weighted mean computed in this item is 2.79 which is indicative of "sometimes."

Queried as to the extent to which their science teachers introduce students to group processes, five of the school heads ticked "almost never" and 9 ticked "sometimes." The weighted mean computed here is 2.64 which is pointing to "sometimes" in the scale.

ISSN 3028-2586 (Print) · ISSN 3155-6876 (Online) · erfresearch.com

Inquired as to the extent to which their science teachers let their pupils evaluate possible ways to solve problems, five of the school heads said "almost never" and nine said "sometimes." In this item, the weighted mean computed is 2.64 which has a descriptive equivalent of "sometimes."

Queried as to the extent to which the problems their science teachers use in class make their pupils motivated to seek out a deeper understanding of the concepts, four of the school heads responded, "almost never" and 10 responded "sometimes." Here, the weighted mean computed is 2.71 which is reflective of "sometimes" in the scale.

Asked as to the extent to which their science teachers make and use rubric to assess assignments of pupils, four of the school heads checked "almost never," eight checked "sometimes," and two checked "almost always." The weighted mean computed in this item is 2.86 which is indicative of "sometimes" in the scale.

When questioned as to the extent to which their science teachers let their pupils solve problems, five of the school heads mentioned "almost never," seven mentioned "sometimes," and two mentioned "almost always." Here, the weighted mean computed is 2.79 which is leading to "sometimes."

When asked as to the extent to which their science teachers make their pupils work in teams to solve problems, five of the school heads claimed "almost never," seven claimed "sometimes," and two claimed "almost always." The weighted mean computed in this item is 2.79 which is "sometimes" in the scale.

When queried as to the extent to which the problems their science teachers give in class provide pupils with some clues to make reasoned decisions and fit into the key of problem-solving, five of the school heads replied "almost never," seven replied "sometimes," and two replied "almost always." The weighted mean computed here is 2.79 which is pointing to "sometimes" in the scale.

When inquired as to the extent to which their science teachers do some warm up exercises to allow pupils to practice assessing both their own work and that of their peers, four of the school heads responded "almost never," eight responded "sometimes," and two responded "almost always." Here, the weighted mean computed is 2.86 which is moving towards "sometimes."

When queried as to the extent to which their science teachers let their pupils report on their findings, six of the school heads ticked "almost never," seven ticked "sometimes," and one ticked "almost always." In this item, the weighted mean computed is 2.64 which is pointing to "sometimes" in the scale.

Questioned as to the extent to which the problems their science teachers give in class have relevant content in such a way as to connect it to the pupils' lives, experiences, or prior knowledge, five of the school heads claimed, "almost never," eight claimed "sometimes," and one claimed "almost always." The weighted mean computed here is 2.71 which is leading to "sometimes" in the scale.

Queried as to the extent to which, while in group, their science teachers make it sure that pupils strongly cooperate as a team to solve problems, four of the school heads said "almost never," nine said "sometimes, and one said "almost always." The weighted mean computed in this item is 2.79 which is pointing to "sometimes" in the scale.

Inquired as to the extent to which their science teachers make pupils take on different roles or divide up the work up among themselves, six of the school heads indicated "almost never" and eight also indicated "sometimes." Here, the weighted mean computed is 2.57 which is indicative of "sometimes" in the scale.

ISSN 3028-2586 (Print) · ISSN 3155-6876 (Online) · erfresearch.com

Questioned as to the extent to which, in groups, their science teachers require their pupils to assume require various perspectives, such as those of government officials, local business owners, and others to solve problems, five of the school heads claimed "almost never" and nine claimed "sometimes." Here, the weighted mean computed is 2.64 which is leading to "sometimes" in the scale.

Asked as to the extent to which the problem their science teachers give to their class are complex enough to ensure that the pupils can work together to solve it, six of the school heads mentioned "almost never" and eight mentioned "sometimes." In this item, the weighted mean computed is 2.57 which is "sometimes" in the scale.

Finally, when questioned as to the extent to which their science teachers explain the problems and introduce in some steps so that it will help students to identify the learning issues, three of the school heads checked "almost never," nine checked "sometimes," and two checked "almost always." The weighted mean computed here is 2.93 which is reflective of "sometimes" in the scale.

Moreover, the computed overall weighted man is 2.77 which has a descriptive equivalent of "sometimes." This implies that the school heads perceived that their science teachers are only sometimes utilizing problem-based learning.

Difference between the Perceptions of the Science Teachers and the School Heads on the Extent of Utilization of Problem-Based Learning of the Science Teachers

This part of the chapter discusses answers to the third sub-problem of the study which is about the significant difference between the perceptions of the science teachers and the school heads on the extent of utilization of problem-based learning of the science teachers.

To provide answers to the sub-problem, the researcher worked on the null hypothesis that there is no significant difference between the perceptions of the science teachers and their school heads on the extent of utilization of problem-based learning of the science teachers. Thereafter, the researcher compared the perceptions of the science teachers and their school heads on the extent of utilization of problem-based learning of the science teachers using the t-test. Here, the researcher computed the p value at .05 level of significance. Table 7 presents the results.

TABLE 7
Difference between the Perceptions of the Science Teachers and the School Heads

	Computed p Value	Level of Significance	RM
The Extent of Utilization of Problem-Based Learning of the Science Teachers	0.00	.05	S

Legend:
RM = remarks
S = significant
NS = not significant

As shown in Table 7, when the perceptions of the science teachers and their school heads on the extent of utilization of problem-based learning of the science teachers are compared, the p value computed is 0.00. This figure is lower than the .05 level of significance. As such, the null hypothesis is rejected. There is a significant difference between the perceptions of the science

ISSN 3028-2586 (Print) · ISSN 3155-6876 (Online) · erfresearch.com

teachers and their school heads on the extent of utilization of problem-based learning of the science teachers.

Relationship between the Profile Variables of the Science Teachers and the Extent of Their Utilization of Problem-Based Learning

This section provides answers to the third sub-problem of the study which is about the significant relationship between the profile variables of the science teachers and the extent of their utilization of problem-based learning.

To provide answers to the sub-problem, the researcher worked on the null hypothesis that there is no significant relationship the profile variables of the science teachers and the extent of their utilization of problem-based learning. Thereafter, the researcher correlated the profile variables of science teachers and the extent of their utilization of problem-based learning using the chi-square test of independence in the Microsoft Excel. Here, the researcher computed for the p value and the chi square value at .05 level of significance. Table 8 provides the results.

TABLE 8
Relationship between the Profile Variables of the Science Teachers and the Extent of Their Utilization of Problem-Based Learning

Profile Variable	P Value .05 LS	Chi Square Value	Chi Square Critical Value	R M
Highest Educational Attainment	0.00	8.71	3.84	S
Length of Teaching Experience	0.01	6.18	3.84	S
Number of Related Trainings Attended	0.01	7.66	3.84	S

Legend:
RM = remarks
S = significant
NS = not significant

As shown in Table 8, when the highest educational attainment of the science teachers and the extent of their utilization of problem-based learning are correlated, the p value computed is 0.00. This figure is lower than the .05 level of significance. In the same way, the chi square value computed is 8.71. This figure is higher than the computed chi square critical value of 3.84. This means that there is a significant relationship between the two. As such, the null hypothesis is rejected. Conformably, it can be said that the extent of utilization of problem-based learning of the science teachers is influenced by their highest educational attainment.

Secondly, when the length of teaching experience of the science teachers and the extent of their utilization of problem-based learning are correlated, the p value computed is 0.01. This figure is lower than the .05 level of significance. Moreover, the computed chi square value is 6.18. This figure is higher than the computed chi square critical value of 3.84. This means that there is a significant relationship between the two. As such, the null hypothesis is rejected. Thus, it can be said that the extent of utilization of problem-based learning of the science teachers is influenced by their length of teaching experience.

ISSN 3028-2586 (Print) · ISSN 3155-6876 (Online) · erfresearch.com

Lastly, when the number of trainings related with problem-based learning attended of the science teachers and the extent of their utilization of problem-based learning are correlated, the p value computed is 0.01. This figure is lower than the .05 level of significance. In the same way, the chi square value computed is 7.66. This figure is higher than the computed chi square critical value of 3.84. This means that there is a significant relationship between the two. As such, the null hypothesis is rejected. Conformably, it can be said that the extent of utilization of problem-based learning of the science teachers is influenced by the number of trainings related with problem-based learning they attended.

The Proposed Innovative Training Program on Problem-based Learning

This section provides answers to the last problem which is about the proposed innovative training program on problem-based learning for the science teachers of the selected public elementary schools in Malasiqui II District.

To provide answers to the problem, the findings previously presented that the school heads perceived that the science teachers are only sometimes utilizing problem-based learning and that the extent of utilization of problem-based learning of the science teachers is influenced by the number of trainings related with problem-based learning were taken into consideration.

What follows is the proposed innovative training program on problem-based learning for the science teachers of selected public elementary schools in Malasiqui II District.

AN INNOVATIVE TRAINING PROGRAM ON PROBLEM-BASED LEARNING FOR THE SCIENCE TEACHERS OF SELECTED PUBLIC ELEMENTARY SCHOOLS IN MALASIQUI II DISTRICT

Rationale:

Two of the primary goals of science in basic education are to develop critical thinking and problem-solving skills. According to the curriculum guide, critical thinking refers to a disciplined intellectual process that involves actively and skillfully conceptualizing, applying, analyzing, synthesizing, and evaluating information derived from observation, experience, reflection, reasoning, or communication to guide beliefs and actions. In contrast, problem solving involves identifying ways to overcome challenges or obstacles and arriving at solutions to unfamiliar problems. Furthermore, these goals are achieved through well-structured and rigorous curriculum content, a clearly defined set of advanced skills, the cultivation of positive values and attitudes, and the use of appropriate tools, all while considering the diverse contexts of Filipino learners.

The preceding emphasizes the importance of science and the key content that learners need to master. However, teaching science is a complex task, as it requires teachers to consider many factors. To help students develop science proficiency, teachers must have a clear understanding of instructional goals and what proficiency entails for the specific content they are teaching. They must also possess a strong grasp of the subject itself, including its broader applications and how it connects to students' future learning pathways.

There are three essential types of knowledge needed in teaching science, one of which is knowledge of instructional practices. This includes understanding the curriculum, being familiar with appropriate tasks and tools for teaching key science concepts, knowing how to design and

ISSN 3028-2586 (Print) · ISSN 3155-6876 (Online) · erfresearch.com

facilitate meaningful classroom discussions, and establishing classroom norms that promote science proficiency. This suggests that science teachers must be equipped with and apply effective teaching strategies.

Research indicates that problem-based learning is an effective instructional strategy in teaching science. For instance, Bron and Prudente (2024) found that this approach is associated with the development of learners' creative thinking in mathematics. As a process-oriented method, it uses problems to promote learning through both independent and collaborative inquiry. Similarly, Garil (2023) reported that all reviewed studies demonstrated that problem-based learning has a significant positive impact on students' problem-solving and critical thinking skills, suggesting its strong value for integration into the teaching-learning process.

With the preceding, this innovative training program on problem-based learning was crafted to enhance the utilization of problem-based learning by the science teachers.

Prerequisite Program: None

Duration:	This program shall run for two days.
Management Level of the Program:	This program is a district-based program for the science teachers of selected public elementary schools in Malasiqui II District.
Delivery Mode:	Depending on the specific activity, but preferably interactive-collaborative activities (one with mentoring, coaching, professional learning session, peer discussion, workshop, and others) and will focus on enhancing the utilization of problem-based learning.
Target Personnel:	Science teachers of selected public elementary schools in Malasiqui II District
Budget Requirement:	The cost of the program shall come from the local fund.
Program Description:	The innovative training program will be a seminar-workshop on problem-based learning.

CONCLUSIONS

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

1. A typical science teacher of the selected public elementary schools in Malasiqui II District has no post-graduate degree, has been teaching for more than 10 years already, and has attended not more than three trainings related with problem-based learning for the past five years.
2. The science teachers perceived that they are almost always utilizing problem-based learning while their school heads perceived that they are only sometimes utilizing it.
3. The science teachers and the school heads have significantly different perceptions on the extent of utilization of problem-based learning of the science teachers.

ISSN 3028-2586 (Print) · ISSN 3155-6876 (Online) · erfresearch.com

4. The extent of utilization of problem-based learning of the science teachers is influenced by their highest educational attainment, the length of teaching experience, and the number of trainings related with problem-based learning attended for the past five years.

5. The proposed innovative training program will improve the extent of utilization of problem-based learning of the science teachers of the selected public elementary school in Malasiqui II District.

RECOMMENDATIONS

Based on the findings made and the conclusions drawn, the following recommendations are offered:

1. The proposed innovative training program on problem-based learning be implemented in the selected public elementary schools in Malasiqui II District to enhance the extent of utilization of problem-based learning of the science teachers.

2. The implementation of the proposed innovative training program on problem-based learning in the selected public elementary schools in Malasiqui II District to enhance the extent of utilization of problem-based learning of the science teachers. should be monitored and evaluated.

3. Similar study may be conducted by other researchers to validate the findings of the study.

REFERENCES

Ahamad, S.N.S.H. et al. (2017, December). Implementation of problem-based learning in geometry lessons. Journal of Physics: Conference Series, 943(1).

Ali, S. S. (2019). Problem based learning: A student-centered approach. English Language Teaching, 12(5),

Ar Rashid, Harun. (2026). An overview of research paradigms. Posted on January 24, 2026 and retrieved on April 10, 2026 at https://limbd.org/an-overview-of-research-paradigms/#google_vignette

Bezanilla, M. J., Fernández-Nogueira, D., Poblete, M., & Galindo-Domínguez, H. (2019). Methodologies for teaching-learning critical thinking in higher education: The teacher's view. Thinking Skills and Creativity, 33,

Borromeo, Jeron. (2025). Utilization of problem-based learning in Mathematics in Malasiqui II District. Thesis (Master of Arts in Education): Lyceum Northwestern University.

Bron, Joseph, & Prudente, Maricar. (2024). Examining the effect of problem-based learning approach on learners` creativity: A meta-analysis International Journal of Research in Education and Science, 10(3).

California Learning Resource Network. (2025). Why is science important to society? Posted on July 2, 2025 and retrieved on April 10, 2026 at https://www.clrn.org/why-is-science-important-to-society/

ISSN 3028-2586 (Print) · ISSN 3155-6876 (Online) · erfresearch.com

Delisle, R. (2017). How to use problem-based learning in the classroom. Association for Supervision and Curriculum Development. Posted in 2017 and retrieved on April 10, 2026 at https://books.google.com.kh/books?id=9nZPZ6N27EEC&printsec=frontcover&redir_esc=y#v=onepage&q&f=false

Department of Education. (2016). K to 12 curriculum guide in Science. Manila: Department of Education.

Garil, Gabrielito. (2023). Exploring the impacts of problem-based learning to students' problem-solving and critical thinking skills: A systematic review. Posted in 2023 and retrieved on April 10, 2026 at https://www.researchgate.net/publication/378475457_Exploring_the_Impacts_of_Problem-Based_Learning_to_Students'_Problem-solving_and_Critical_Thinking_Skills_A_Systematic_Review

HomeScienceTools.com. (2021). Why Science? Posted on November 10, 2021 and retrieved on April 10, 2026 at https://learning-center.homesciencetools.com/article/why-science/

Kurt, Serhat. (2020). Problem-based learning (PBL). Posted on January 8, 2020 and retrieved on April 10, 2026 at https://educationaltechnology.net/problem-based-learning-pbl/

Lim, Thearath. (2023) Problem-based learning: Benefits, challenges, and the way forward. Posted in 2023 and Retrieved on April 10, 2026 at https://www.researchgate.net/publication/375671323_Problem-Based_Learning_Benefits_Challenges_and_the_Way_Forward

McLeod, Saul. (2025). Constructivism learning theory and philosophy of education. Posted on March 31, 2025 and retrieved on April 10, 2026 at https://www.simplypsychology.org/constructivism.html

Nicholuz, G., Muwonge, C.M., & Joseph, Nzabahimana. (2023). The role of problem-based learning approach in teaching and learning physics: A systematic literature review. F1000Research.

Prasad, S., & O'Malley, C. (2022). An introductory framework of problem-based learning (PBL) and perspectives in enhancing facilitation approaches. HAPS Educator, 26(3).

Soken-Huberty, Emmaline. (2021). 15 reasons why science is important. Posted on January 10, 2021 and retrieved on April 10, 2026 at https://theimportantsite.com/reasons-why-science-is-important/

Yew, Elaine, & Goh, Karen. (2016). Problem-based learning: An overview of its

ISSN 3028-2586 (Print) · ISSN 3155-6876 (Online) · erfresearch.com

process and impact on learning. Health Professions Education, 2(2).

APPENDICES

THE SURVEY-QUESTIONNAIRE FOR THE SCIENCE TEACHERS

April 10, 2026

Dear Colleagues,

Greetings!

The undersigned is conducting a study entitled **"Utilization of Problem-Based Learning of Science Teachers of Selected Public Elementary Schools in Malasiqui II District"** in partial fulfillment of the degree Master of Arts in Education.

In connection with this, and knowing that you are a science teacher in one of the selected public elementary school in Malasiqui II District, may I respectfully ask you to answer the accompanying sheet honestly and objectively?

Rest assured that your responses will be treated with utmost confidentiality.

Thank you so much.

Respectfully,

(Sgd.) Roselle Nevado
Researcher

NAME (Optional): _____

I. Please provide your profile in the following:

1. Highest Educational Attainment:

   ( ) Bachelor's Degree
   ( ) Finished academic requirements in the Master's Degree
   ( ) Master's Degree
   ( ) Finished academic requirements in the Doctorate Degree
   ( ) Doctorate Degree

2. Length of Teaching Experience:

   ( ) 1 – 5 years

ISSN 3028-2586 (Print) · ISSN 3155-6876 (Online) · erfresearch.com

( ) 6 – 10 years
( ) 11 – 15 years
( ) more than 15 years

3. Number of trainings related with problem-based learning attended for the past five years:

( ) have not attended any trainings/seminars related with problem-based learning for the past five years
( ) have attended not more than three trainings/seminars related with problem-based learning for the past five years
( ) have attended not more than three trainings/seminars related with problem-based learning for the past five years

PART II. Please rate the extent to which you are using problem-based learning. Please be guided by the following:

1 = never
2 = almost never
3 = sometimes
4 = almost always
5 = always

Assessment Items	Responses				
	1	2	3	4	5
1. In class, I create problems which pupils may encounter in the future.					
2. I let my pupils examine and define problems.					
3. In group works, I assign a leader who acts as referee for each of the group.					
4. I provide real-world problems which my pupils have to solve in groups.					
5. I articulate the learning outcomes in any class activity.					
6. I let my pupils explore what they already know about underlying issues related to it.					
7. I let the groups in my class to work independently in solving problems.					
8. I make it sure that members of the groups will critically examine problems and articulate solutions to them.					
9. In groups, I let my pupils make friendly communication with other pupils through sharing their ideas with each other in the group discussion.					
10. I establish ground rules at the beginning to prepare students to work effectively in groups.					
11. I let pupils determine what they need to learn and where they can acquire the information and tools necessary to solve problems.					

ISSN 3028-2586 (Print) · ISSN 3155-6876 (Online) · erfresearch.com

12. I let my pupils in groups to research on information to solve problems.					
13. I introduce students to group processes.					
14. I let my pupils evaluate possible ways to solve problems.					
15. The problems I use in class make my pupils motivated to seek out a deeper understanding of the concepts.					
16. I make and use rubric to assess assignments of pupils.					
17. I let my pupils solve problems.					
18. I make my pupils work in teams to solve problems.					
19. The problems I give in class provide pupils with some clues to make reasoned decisions and fit into the key of problem-solving.					
20. I do some warm up exercises to allow pupils to practice assessing both their own work and that of their peers.					
21. I let my pupils report on their findings.					
22. The problems I give in class have relevant content in such a way as to connect it to the pupils' lives, experiences, or prior knowledge.					
23. While in group, I make it sure that pupils strongly cooperate as a team to solve problems.					
24. I make pupils take on different roles or divide up the work up among themselves.					
25. In groups, I require my pupils to assume require various perspectives, such as those of government officials, local business owners, and others to solve problems.					
26. The problem I give to my class are complex enough to ensure that the pupils can work together to solve it.					
27. I explain the problems and introduce in some steps so that it will help students to identify the learning issues.					

THE SURVEY-QUESTIONNAIRE FOR THE SCHOOL HEADS

April 10, 2026

Dear School Heads,

Greetings!

The undersigned is conducting a study entitled **"Utilization of Problem-Based Learning of Science Teachers of Selected Public Elementary Schools in Malasiqui II District"** in partial fulfillment of the degree Master of Arts in Education.

ISSN 3028-2586 (Print) · ISSN 3155-6876 (Online) · erfresearch.com

In connection with this, may I respectfully ask you to answer the accompanying sheet honestly and objectively?

Rest assured that your responses will be treated with utmost confidentiality.

Thank you so much.

Respectfully,

(Sgd.) Roselle Nevado
Researcher

NAME (Optional): _____

PART I. Please rate the extent of utilization of problem-based learning of your science teachers. Please be guided by the following:

1 = never
2 = almost never
3 = sometimes
4 = almost always
5 = always

Assessment Items	Responses				
My science teachers, ….	1	2	3	4	5
1. in class, create problems which pupils may encounter in the future.					
2. let their pupils examine and define problems.					
3. in group works, assign a leader who acts as referee for each of the group.					
4. provide real-world problems which their pupils have to solve in groups.					
5. articulate the learning outcomes in any class activity.					
6. let their pupils explore what they already know about underlying issues related to it.					
7. let the groups in their class to work independently in solving problems.					
8. make it sure that members of the groups will critically examine problems and articulate solutions to them.					
9. in groups, let their pupils make friendly communication with other pupils through sharing their ideas with each other in the group discussion.					
10. establish ground rules at the beginning to prepare students to work effectively in groups.					

ISSN 3028-2586 (Print) · ISSN 3155-6876 (Online) · erfresearch.com

11. let pupils determine what they need to learn and where they can acquire the information and tools necessary to solve problems.					
12. let their pupils in groups to research on information to solve problems.					
13. introduce students to group processes.					
14. let their pupils evaluate possible ways to solve problems.					
15. use problems in class that make their pupils motivated to seek out a deeper understanding of the concepts.					
16. make and use rubric to assess assignments of pupils.					
17. let their pupils solve problems.					
18. make their pupils work in teams to solve problems.					
19. give problems in class that provide pupils with some clues to make reasoned decisions and fit into the key of problem-solving.					
20. do some warm up exercises to allow pupils to practice assessing both their own work and that of their peers.					
21. let their pupils report on their findings.					
22. give problems in class that have relevant content in such a way as to connect it to the pupils' lives, experiences, or prior knowledge.					
23. while in group, make it sure that pupils strongly cooperate as a team to solve problems.					
24. make pupils take on different roles or divide up the work up among themselves.					
25. in groups, require their pupils to assume require various perspectives, such as those of government officials, local business owners, and others to solve problems.					
26. give problems in class that are complex enough to ensure that the pupils can work together to solve it.					
27. explain the problems and introduce in some steps so that it will help students to identify the learning issues.					

ISSN 3028-2586 (Print) · ISSN 3155-6876 (Online) · erfresearch.com