

Level Of Performance In Science Of Grade 5 Learners: Basis For The Development Of Worksheets

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ABSTRACT

This study described the Science performance of Grade 5 learners at Lilibangan Elementary School in Concepcion South District, Division of Tarlac Province, during School Year 2024-2025 and used the identified learning gaps as the basis for developing worksheets. A quantitative-descriptive design was applied. Final Science ratings and teacher-made test results were examined for 31 learners, while Science teachers evaluated the proposed worksheets using an acceptability questionnaire adopted from Espinar (2017). Frequency, percentage, and weighted mean were used. Most learners were classified at the average level: 19 learners (61.29%) obtained ratings of 85-89%, six (19.36%) were above average, four (12.90%) were fair, and two (6.45%) were poor. The most frequently missed competencies involved the properties and uses of materials (73.87%), changes in materials (71.62%), and designing useful products from recyclable, solid, and liquid materials (68.52%). Worksheets were prepared

around the ten least-mastered competencies. The materials were rated very acceptable in content ($M = 3.58$), quality of presentation ($M = 3.56$), and physical make-up ($M = 3.63$), with an overall mean of 3.59. The findings support classroom use and broader pilot testing of targeted Science worksheets, together with continued school support for teacher-developed instructional materials.

Keywords: *Science performance; Grade 5 learners; least-mastered competencies; worksheets; instructional materials*

INTRODUCTION

Science education develops the knowledge and process skills learners need to interpret natural phenomena, solve problems, and apply evidence to everyday situations. At the elementary level, these foundations are especially important because later learning depends on learners' understanding of basic concepts in matter, weather, living systems, forces, rocks, and soil.

The submitted thesis identified a practical concern at Lilibangan Elementary School: Science teachers had limited instructional materials for concepts that learners found difficult. The source manuscript emphasized that worksheets can organize guided practice, provide tasks at

varying levels of difficulty, and allow learners to work independently after appropriate teacher support. Its conceptual basis combined behaviorist practice and reinforcement, constructivist knowledge building, and experiential learning through concrete tasks.

The study therefore assessed Grade 5 Science performance, identified the least-mastered competencies, developed worksheets addressing those weaknesses, and evaluated the materials in terms of content, presentation, and physical design.

METHODS

Research Design and Setting

A quantitative-descriptive design was used at Lilibangan Elementary School, Concepcion South District, Division of Tarlac Province, during School Year 2024-2025. The design described learners' final Science performance and the competencies in which they experienced the greatest difficulty. The results guided the development of supplementary worksheets.

Data Sources and Instruments

The performance analysis covered 31 Grade 5 learners. Final Science ratings were obtained from school records, and weaknesses were identified from teacher-made test results. Science teachers served as evaluators of

the developed worksheets. The source manuscript did not state the number of teacher-evaluators. Worksheet acceptability was measured using an instrument adopted from Espinar (2017), covering content, quality of presentation, and physical make-up.

Data Analysis

Frequency and percentage summarized learner performance and the proportion of incorrect responses for each competency. Weighted mean summarized the acceptability ratings. Means from 3.50 to 4.49 were interpreted as Very Acceptable, while 4.50 to 5.00 were interpreted as Highly Acceptable.

RESULTS AND DISCUSSION

Science Performance of Grade 5 Learners

Table 1. Distribution of final Science performance (N = 31)

Performance category	Rating range	Frequency	Percentage
Outstanding	95-100	0	0.00%
Above Average	90-94	6	19.36%
Average	85-89	19	61.29%
Fair	80-84	4	12.90%
Poor	75-79	2	6.45%
Did Not Meet Expectations	Below 75	0	0.00%
Total		31	100.00%

The largest group of learners was in the average category, indicating a generally adequate but not advanced command of Grade 5 Science concepts. More than one learner in five was classified as fair or poor, while no learner reached the outstanding category. This distribution supports the use of focused remediation rather than relying only on general review activities.

Least-Mastered Science Competencies

Table 2. Ten competencies with the highest percentages of incorrect responses

Rank	Competency	Incorrect responses
1	Properties of materials and whether they are useful or harmful	73.87%
2	Changes in materials	71.62%
3	Designing useful products from recyclable, solid, and liquid materials	68.52%
4	Other weather instruments used to measure weather components	67.78%
5	Parts of the reproductive system and their functions	65.56%
6	Factors affecting the strength of an electromagnet	62.30%
7	How rocks turn into soil	60.34%
8	Interactions among living and non-living things	57.12%
9	Characteristics of different types of soil	55.36%
10	Changes in the weather	52.10%

Note. Percentages reproduce the source table. The accompanying narrative in the thesis contains minor numerical mismatches for several items.

The three most prominent gaps concerned matter and material use, suggesting that learners needed additional opportunities to classify properties, observe changes, and apply concepts through design tasks. Difficulties also extended across Earth science, life science, weather, and electromagnetism. The breadth of the weaknesses justified a set of topic-specific worksheets rather than a single general activity sheet.

Development and Acceptability of the Worksheets

Ten worksheets were developed to correspond to the identified competencies. The materials incorporated guided exercises and age-appropriate tasks intended to reinforce concepts and provide additional practice.

Table 3. Expert evaluation of the proposed worksheets

Evaluation dimension	Weighted mean	Interpretation
Content	3.58	Very Acceptable
Quality of presentation	3.56	Very Acceptable
Physical make-up	3.63	Very Acceptable
Overall	3.59	Very Acceptable

Physical make-up obtained the highest dimension mean, reflecting favorable ratings for task design, print size, and page layout. Content and presentation were also rated very acceptable. These judgments indicate that the worksheets were viewed as suitable for Grade 5 learners, although the evaluation addressed acceptability rather than measured learning gains. Classroom trials with pretest-posttest evidence are still required to establish effectiveness.

CONCLUSION AND RECOMMENDATIONS

Grade 5 learners generally demonstrated average Science performance, with marked weaknesses in several competencies involving materials, weather, living systems, electromagnetism, rocks, and soil. The worksheets developed from these gaps were rated very acceptable by Science teachers. The materials may therefore be considered for supervised classroom use, provided that implementation is monitored and learner outcomes are evaluated.

The school may pilot the worksheets with Grade 5 classes and compare learner performance before and after their use.

Teachers may continue developing instructional materials for competencies with high error rates and revise the worksheets using classroom feedback.

School administrators may support printing, reproduction, and collaborative review of teacher-developed materials.

Future studies may use larger samples, identify the number and qualifications of evaluators, and test the worksheets through an experimental or quasi-experimental design.