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Development and Acceptability of Instructional Material in Teaching Science

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ABSTRACT

This study aimed to develop and determine the level of acceptability of instructional materials in teaching Science for Grade Six pupils in Angono District, Division of Rizal, during the School Year 2025–2026. Employing developmental and descriptive research designs, the study involved sixty (60) Science teachers who evaluated the developed instructional material using a researcher-made questionnaire-checklist. The evaluation focused on five aspects: objectives, content, organization and presentation, language and style, and usefulness. The findings revealed that the instructional material was systematically developed based on the curriculum competencies on identifying the major organs of the body and their functions. It incorporated engaging gamification features, including individual and team modes, menu customization, integrated settings, and a word editor, providing interactive learning experiences and instructional flexibility. The majority of the respondents were 31–40 years old, female, married, had earned master's degree units, held Teacher I positions, had 1–10 years of teaching experience, and had attended division-level in-service trainings. The developed instructional material was rated very much acceptable in all five evaluation aspects. Furthermore, no significant differences were found in the teachers' assessments when grouped according to age, sex, civil status, length of service, position title, and in-service trainings attended. However, a significant difference was established in the language and style aspect when respondents were grouped according to educational attainment. The study concluded that the developed instructional material is a highly acceptable supplementary resource for teaching Science and may enhance pupils' engagement and understanding of the major organs of the body and their functions. It was recommended that teachers integrate the material into Science instruction, school administrators support its utilization and development, and future researchers explore its applicability across different grade levels and educational settings.

Keywords: *Instructional Materials, Science Education, Developmental Research, Acceptability, Gamification, Grade Six Pupils*

1. INTRODUCTION

1.1. Background and Context of the Study

Science education plays a fundamental role in developing learners' understanding of the natural world, scientific processes, and the relationship between scientific knowledge and everyday experiences. At the elementary level, Science provides opportunities for pupils to develop curiosity, critical thinking, problem-solving abilities, and evidence-based reasoning. It introduces essential concepts that serve as foundations for more advanced scientific learning. According to the Department of Education (DepEd, 2023), Science education emphasizes active learner participation, inquiry-based activities, and the progressive development of conceptual understanding, scientific skills, values, and attitudes. These principles highlight the importance of providing appropriate instructional materials that enable pupils to explore scientific concepts beyond the conventional delivery of lessons. Similarly, Bennett et al. (2023) emphasized that effective primary science instruction requires carefully organized teaching approaches that support learners' scientific knowledge, skills, and attitudes. Their systematic review underscored the importance of identifying instructional strategies that can produce meaningful learning experiences among elementary pupils.

In the contemporary educational landscape, the teaching of Science requires instructional approaches that respond to the diverse learning needs, interests, and abilities of pupils. Scientific concepts often involve structures, processes, and relationships that may be difficult for young learners to understand through verbal explanations and textbook discussions alone. Consequently, instructional materials serve as essential resources for presenting abstract and complex concepts through concrete, visual, interactive, and developmentally appropriate learning experiences. The use of representations, diagrams, illustrations, models, and other learning resources allows pupils to establish connections between scientific information and observable phenomena. Böschl et al. (2023) highlighted the importance of scientific modeling in elementary classrooms as a means of supporting learners' sense-making and scientific reasoning. Likewise, Louca (2023) demonstrated how learner-generated models and visual representations could facilitate the development and communication of scientific ideas. Prain et al. (2023) further emphasized that teachers play an important role in guiding learners in constructing and interpreting representations to develop meaningful scientific understanding. These findings establish the value of instructional materials that provide opportunities for pupils to visualize, interpret, and actively engage with scientific concepts.

The importance of well-designed instructional materials becomes particularly evident in teaching topics related to the human body and its major organs. Understanding the structure, location, and functions of different organs requires pupils to recognize relationships between individual body parts and the systems through which they work together. Such concepts may be challenging because many anatomical structures are located inside the body and cannot be directly observed. Damerau et al. (2022) explained that elementary pupils may possess fragmented or incomplete conceptions of internal organs and their relationships within the human body. Their investigation highlighted the need for appropriate instructional approaches that help learners develop scientifically accurate representations of human anatomy. Similarly, Carvajal et al. (2022) developed and validated instructional materials involving visual aids for teaching organ systems, demonstrating the potential of structured learning resources in facilitating the presentation of anatomical concepts. These studies suggest that the teaching of human body structures requires instructional materials that combine accuracy, clarity, visual representation, and active learner participation.

Moreover, instructional materials should not merely present information but should also encourage learners to participate in the learning process. The effectiveness of a learning

resource depends on its alignment with instructional objectives, appropriateness of content, organization, presentation, language, and practical usefulness. The Department of Education (2023) emphasized that learning activities should be anchored on curriculum competencies and designed to promote active engagement rather than passive content reception. In the Philippine educational context, the implementation of the MATATAG Curriculum further reinforces the need for learning resources that support meaningful, competency-based, and learner-centered instruction (DepEd, 2024). The curriculum recognizes the importance of developing scientific understanding through inquiry, exploration, and the application of knowledge. In addition, DepEd (2024), through its curriculum implementation guidelines and learning resource provisions, recognizes the use of appropriate supplementary materials to support the delivery of curriculum content. The Department's Science Grade Six lesson exemplars also demonstrate the importance of providing structured learning activities and resources to guide classroom instruction.

Research has consistently recognized the contribution of student-centered approaches to improving elementary Science learning. A scoping review of primary science interventions published in 2023 found that various student-centered teaching approaches were associated with improvements in learners' science knowledge, skills, and attitudes (2023 primary science intervention review). Toma (2022) emphasized that structured inquiry provides opportunities for learners to develop scientific understanding while receiving appropriate guidance from teachers. Similarly, Yun and Crippen (2024) established that educational technology can support inquiry-based elementary Science instruction by providing opportunities for learners to investigate scientific phenomena and engage in different stages of inquiry. Their review of empirical studies demonstrated the potential of technology in strengthening learner participation and supporting the development of scientific process skills. These findings suggest that instructional materials should be designed not only to communicate information but also to facilitate exploration, participation, and meaningful interaction with lesson content.

Another instructional approach that has gained considerable attention is the integration of gamification and game-based learning into classroom instruction. Gamification involves incorporating game-design elements, such as challenges, rewards, points, levels, and interactive activities, into educational environments to encourage participation and sustain learners' interest. Dehghanzadeh et al. (2024) reviewed empirical studies on gamification in K–12 education and identified its potential to improve learners' cognitive, affective, and behavioral outcomes through increased motivation and engagement. In the field of Science education, Alahmari et al. (2023) identified the growing application of gamification in various scientific disciplines and highlighted its potential contributions to students' learning experiences. Wang et al. (2022), through a meta-analysis, established the positive contribution of digital game-based STEM education to students' learning achievement. Similarly, Gui et al. (2023) found that digital educational games could improve STEM learning outcomes, particularly when game-design elements were meaningfully connected to instructional content. Li et al. (2023) also reported positive effects of gamification on student motivation, engagement, and learning outcomes, although its effectiveness may vary depending on instructional design and learning conditions.

The integration of game-based strategies is particularly relevant in elementary education, where learners benefit from activities that encourage exploration, interaction, and immediate participation. Guan et al. (2024) examined game-based learning in primary education and identified its application in different subject areas, including Science, with generally positive learning outcomes. Romero-Rodríguez et al. (2024), in their systematic review of gamification in primary education, observed the increasing use of game-based approaches and educational applications in elementary classrooms. However, they also emphasized that gamification does

not automatically guarantee improved academic performance, highlighting the importance of appropriate pedagogical design. Yusri and Zainal (2025) likewise identified improvements in academic performance, motivation, engagement, and skills through gamification in primary schools, while recognizing the need for further investigation into its long-term effects. These findings suggest that game elements should be purposefully integrated into instructional materials so that entertainment complements, rather than replaces, the intended learning objectives.

The development of instructional materials also requires careful consideration of multimedia presentation and the cognitive demands of learners. Appropriate combinations of words, images, illustrations, animations, and interactive features can help learners process information and establish meaningful connections among concepts. Noetel et al. (2022) emphasized that effective multimedia design contributes to learning when instructional elements are organized according to established principles, including coherence, signaling, segmentation, and appropriate integration of visual and verbal information. Fick et al. (2021) further demonstrated the value of using students' conceptual models and representations to support their understanding of scientific concepts. In addition, Bello et al. (2023) highlighted the contribution of contextualized and localized Science teaching and learning materials in improving students' learning performance. These studies reinforce the importance of developing instructional materials that are visually appropriate, conceptually accurate, accessible, and responsive to learners' educational needs.

In the Philippine setting, the development of supplementary instructional materials is particularly significant in addressing differences in learners' interests, learning preferences, and levels of understanding. Lotivio and Bercasio (2022) investigated the use of indigenized game-based instructional materials in Grade Six Science and demonstrated the relevance of integrating familiar and engaging learning experiences into Science instruction. Similarly, the instructional guide developed by Carvajal et al. (2022) illustrated how structured and validated visual learning resources could support the teaching of human organ systems. These local studies provide a foundation for exploring instructional innovations that combine scientific accuracy with engaging learning activities. Furthermore, the Department of Education's learning resource initiatives recognize the importance of supplementary instructional materials in supporting teachers in delivering curriculum competencies (DepEd, 2024). Nevertheless, the integration of technology and interactive features must remain guided by educational objectives. UNESCO (2023) emphasized that technology should serve as a means of strengthening the quality and accessibility of education rather than becoming an end in itself. This position highlights the need to ensure that instructional innovations remain pedagogically appropriate, accessible, and responsive to actual classroom conditions.

The importance of strengthening Science education is also reflected in international assessments of scientific literacy. The Organisation for Economic Co-operation and Development (OECD, 2023), through the Programme for International Student Assessment (PISA) 2022, underscored the continuing importance of scientific knowledge and competencies in enabling learners to interpret evidence, explain phenomena, and make informed decisions. Although PISA assesses 15-year-old learners rather than elementary pupils, its findings emphasize the need to establish strong foundations in scientific understanding during the early years of education. In this regard, the development of appropriate instructional materials at the elementary level can contribute to building the knowledge and skills necessary for more advanced scientific learning.

Despite the availability of textbooks, modules, and other instructional resources, teachers continue to face the challenge of presenting scientific concepts in ways that are understandable, engaging, and appropriate for elementary learners. Conventional teaching materials may not always provide sufficient opportunities for interaction, independent exploration, and immediate reinforcement of learned concepts. The findings of the primary Science intervention literature reviewed by Bennett et al. (2023) reinforce the importance of evaluating instructional approaches based on their contributions to learners' knowledge, skills, and attitudes. Likewise, Yun and Crippen (2024) highlighted the potential of educational technology in supporting inquiry-based learning, while Toma (2022) emphasized the importance of appropriate teacher guidance in developing scientific understanding. These perspectives indicate that instructional materials should be developed through a systematic process that considers curriculum alignment, instructional objectives, content accuracy, presentation, language, and practical classroom application.

In view of these considerations, the present study focused on the development and acceptability of instructional materials in teaching Science for Grade Six pupils in Angono District, Division of Rizal, during the School Year 2025–2026. Specifically, the developed instructional material addressed the learning competencies concerning the identification of the major organs of the human body and their respective functions. It incorporated interactive game features, including individual and team modes, menu customization, integrated settings, and a word editor, to provide opportunities for engaging and flexible classroom instruction. The material was designed to support teachers in presenting scientific concepts through an organized, interactive, and learner-centered approach while providing pupils with opportunities to reinforce their understanding through meaningful learning activities.

1.2. Research Problem

This study aimed to assess the level of acceptability of the developed instructional material in teaching Science for Grade Six pupils in Angono District during the School Year 2026–2027. Specifically, it sought to determine how the instructional material was developed; describe the profile of the respondents in terms of age, sex, civil status, educational attainment, position title, length of service, and in-service trainings attended; assess the level of acceptability of the developed instructional material with respect to objectives, content, organization and presentation, language and style, and usefulness; and determine whether a significant difference exists in the respondents' assessment of the acceptability of the developed instructional material across the cited aspects when they are grouped according to their profile.

1.3. Research Gap

Although previous studies have established the potential of instructional materials, educational technology, and gamification in improving learners' engagement and academic performance, gaps remain in the development and evaluation of interactive instructional resources specifically intended for elementary Science education. Existing studies have generally focused on the effectiveness of game-based learning, the use of digital educational applications, and the integration of visual aids in teaching scientific concepts. However, limited attention has been given to the systematic development and teacher-based evaluation of instructional materials that combine curriculum-aligned content, interactive game features, and customizable instructional functions for teaching specific Science competencies, particularly the identification of the major organs of the human body and their respective functions among Grade Six pupils. Furthermore, there remains a need to examine how teachers' demographic and professional characteristics relate to their assessments of instructional material acceptability across objectives, content, organization and presentation, language and style, and usefulness. In the context of Angono District, Division of Rizal, the availability of an instructional material that

integrates individual and team modes, menu customization, integrated settings, and a word editor presents an opportunity to address the need for more engaging and adaptable Science learning resources. Thus, this study sought to address these gaps by developing an interactive instructional material anchored on the prescribed curriculum competencies and determining its level of acceptability through the evaluation of sixty (60) Science teachers. By examining both the development process and the teachers' assessments, the study aimed to contribute practical evidence on the design, refinement, and potential classroom application of supplementary instructional materials that promote interactive, meaningful, and learner-centered Science instruction.

1.4. Purpose and Objectives of the Study

The primary purpose of this study was to develop and determine the level of acceptability of instructional materials in teaching Science for Grade Six pupils in Angono District during the School Year 2026–2027. Specifically, it aimed to develop an instructional material aligned with the prescribed Science curriculum competencies, particularly those concerning the identification of the major organs of the human body and their respective functions. It also sought to determine the profile of the teacher-respondents in terms of age, sex, civil status, educational attainment, position title, length of service, and in-service trainings attended. Furthermore, the study aimed to evaluate the developed instructional material based on objectives, content, organization and presentation, language and style, and usefulness, and determine whether significant differences existed in the respondents' assessments when grouped according to their profile. Through these objectives, the study intended to produce a systematic, interactive, and learner-centered supplementary instructional resource that could support teachers in delivering Science lessons and enhance pupils' engagement and understanding of scientific concepts.

1.5. Significance and Practical Contribution of the Study

This study is significant because it provides a supplementary instructional resource designed to make Science instruction more engaging, interactive, and responsive to the learning needs of Grade Six pupils. The developed material may benefit pupils by providing meaningful opportunities to understand the major organs of the human body and their functions through organized and game-based learning activities. Science teachers may utilize the material as an additional teaching resource to reinforce lesson discussions, encourage active participation, and facilitate the achievement of curriculum competencies. School administrators may use the findings as a basis for supporting the development, evaluation, and integration of innovative instructional materials in classroom instruction. Curriculum developers and learning resource evaluators may also consider the results in designing and assessing supplementary materials that integrate appropriate content, presentation, language, and interactive features. Moreover, future researchers may use the study as a reference in conducting related investigations on instructional material development, acceptability, gamification, and technology-supported learning. Its practical contribution lies in providing a teacher-evaluated instructional material that combines curriculum-based content with interactive features to support meaningful Science learning experiences.

1.6. Sustainable Development Goals (SDG) Alignment

This study is primarily aligned with Sustainable Development Goal 4 (Quality Education), particularly Target 4.1, which promotes inclusive and equitable quality education and effective learning outcomes, and Target 4.4, which emphasizes the development of relevant skills through quality learning opportunities. By developing and evaluating interactive instructional materials for Grade Six Science, the study supports the improvement of teaching and learning resources that can contribute to pupils' scientific understanding, participation, and engagement. It also supports Target 4.a by recognizing the importance of effective learning environments that

respond to learners' educational needs. Furthermore, the study contributes to SDG 9 (Industry, Innovation and Infrastructure) through the application of innovative and technology-supported approaches in developing instructional materials that enhance conventional classroom practices. The integration of game-based features, customizable settings, and interactive learning activities demonstrates how innovation can be utilized to improve educational delivery. Overall, the study supports the advancement of quality, inclusive, and innovative elementary Science education by providing a supplementary instructional resource that promotes active learning and strengthens the development of foundational scientific knowledge and competencies**.**

2. METHODOLOGY

2.1. Research Design

This study employed developmental and descriptive research designs to accomplish its objectives. The developmental research design was utilized in the systematic development of the instructional material in teaching Science for Grade Six pupils, particularly on the identification of the major organs of the human body and their respective functions. This involved identifying the learning competencies, establishing instructional objectives, preparing and organizing the content, designing interactive features, and refining the material based on the evaluation results. Meanwhile, the descriptive research design was employed to determine the level of acceptability of the developed instructional material as assessed by the Science teachers. It also described the respondents' demographic and professional profiles and examined differences in their assessments when grouped according to selected profile variables. The combination of these research designs provided an appropriate framework for developing an instructional resource and systematically evaluating its suitability for supplementary classroom instruction.

2.2. Research Locale

The study was conducted in Angono District, Division of Rizal, during the School Year 2026–2027. Angono is a municipality in the province of Rizal, Philippines, recognized for its cultural heritage and educational institutions. The district was selected as the research locale because it provided the appropriate setting for evaluating the developed instructional material among Science teachers handling elementary-level instruction. The study involved teachers who possessed relevant teaching experiences and professional knowledge in implementing the Science curriculum. Their assessments served as the basis for determining the acceptability of the developed instructional material in terms of objectives, content, organization and presentation, language and style, and usefulness. The selection of the locale also provided an opportunity to examine the applicability of an interactive and curriculum-aligned instructional resource within the actual context of elementary Science education.

2.3. Sampling Technique

The study employed total enumeration sampling, wherein all sixty (60) Science teachers in Angono District were included as respondents. This sampling technique was considered appropriate because the identified population was manageable and the researcher intended to obtain the assessments of the entire accessible group of Science teachers within the research locale. By including all qualified respondents, the study sought to gather comprehensive evaluations of the developed instructional material based on their professional experiences and perspectives. The respondents were described according to age, sex, civil status, educational attainment, position title, length of service, and in-service trainings attended. Their participation provided relevant information for determining the acceptability of the developed instructional

material and examining whether differences existed in their evaluations when grouped according to their profile.

2.4. Data Gathering Procedure

The data-gathering procedure commenced with the development of the instructional material based on the prescribed Grade Six Science curriculum competencies, particularly those relating to the major organs of the human body and their respective functions. The researcher identified the instructional objectives, prepared and organized the learning content, and incorporated interactive features such as individual and team modes, menu customization, integrated settings, and a word editor. After completing the initial material, the researcher prepared a questionnaire-checklist covering the respondents' profiles and the five evaluation criteria: objectives, content, organization and presentation, language and style, and usefulness. Permission to conduct the study was secured from the appropriate school and educational authorities before the administration of the research instrument. The researcher then coordinated with the concerned Science teachers, explained the purpose of the study, and provided the necessary instructions for evaluating the developed instructional material. The completed questionnaires were collected, checked for completeness, organized, and tabulated for statistical treatment. Feedback and suggestions from the respondents were also considered in identifying areas for refinement to improve the instructional material's overall quality and acceptability.

2.5. Data Analysis

The data gathered were organized, tabulated, analyzed, and interpreted using appropriate descriptive and inferential statistical tools. Frequency and percentage were used to describe the respondents' demographic and professional profiles in terms of age, sex, civil status, educational attainment, position title, length of service, and in-service trainings attended. Weighted mean was employed to determine the level of acceptability of the developed instructional material in terms of objectives, content, organization and presentation, language and style, and usefulness. Appropriate statistical tests were utilized to determine whether significant differences existed in the respondents' assessments when grouped according to their profile. Depending on the number of categories and the distribution and characteristics of the data, the independent-samples t-test and one-way analysis of variance (ANOVA) were considered for comparing group assessments. All inferential tests were evaluated at the 0.05 level of significance. The results were interpreted based on the established statistical criteria and served as the basis for drawing conclusions regarding the acceptability of the developed instructional material**.**

2.6. Ethical Considerations

The study observed appropriate ethical standards throughout the development, data-gathering, and evaluation processes to protect the rights, privacy, and welfare of the respondents. Prior permission was obtained from the appropriate educational authorities before conducting the study and administering the research instrument. The respondents were informed of the purpose, nature, and objectives of the research, including their role in evaluating the developed instructional material. Their participation was voluntary, and they were given the opportunity to decline or withdraw from the study without experiencing any penalty or unfavorable consequences. Informed consent was secured before collecting data, and the confidentiality of all responses was maintained. No personally identifiable information was disclosed in the presentation, analysis, or reporting of the findings. The information gathered was used exclusively for academic and research purposes and was handled with appropriate care. Furthermore, the researcher ensured that the evaluation process was conducted objectively, that respondents were not subjected to unnecessary pressure, and that their comments and

assessments were treated with fairness and respect. These ethical measures helped ensure the integrity, credibility, and responsible conduct of the study.

3. RESULTS AND DISCUSSION

3.1. Development of Instructional Material in Teaching Science

The development of the instructional material in teaching Science followed a systematic process that involved identifying pupils' learning needs, reviewing the prescribed curriculum competencies, selecting appropriate content, and designing engaging learning activities focused on the major organs of the human body and their functions. The material incorporated descriptive clues to help pupils identify body organs, along with interactive features such as solo and team play, life counts, icon selection, customizable settings, and a word editor to provide instructional flexibility. Its acceptability was evaluated by teacher-respondents in terms of objectives, content, organization and presentation, language and style, and usefulness. Feedback and recommendations from the respondents served as the basis for necessary revisions and improvements to ensure the material's clarity, appropriateness, and alignment with curriculum standards. Ultimately, the developed instructional material serves as a supplementary Science learning resource that promotes interactive, engaging, and learner-centered instruction while supporting pupils' understanding of the human body's major organs and the functions of organ systems.

3.2. Profile of the Respondents in Terms of the Selected Variables

The profile of the sixty teacher-respondents revealed that the majority were 31–40 years old, accounting for 36.7%, female at 85.0%, and married at 51.7%. In terms of educational attainment, most had earned Master's degree units, representing 46.7%, while 48.3% held Teacher I positions. Regarding length of service, the largest proportion had 1–10 years of teaching experience, comprising 51.7%, indicating that most respondents were relatively early in their professional careers. Moreover, the majority had attended division-level in-service trainings at 66.7%, followed by national-level trainings at 25.0%. Overall, the findings indicate that the respondents represented a predominantly female group of elementary Science teachers with master's-level academic preparation, varying years of teaching experience, and professional development exposure primarily at the division level.

3.3. Level of Acceptability of the Developed Instructional Material in Teaching Science as Perceived by the Respondents With Respect to the Different Aspects

The developed instructional material in teaching Science obtained a composite mean of 4.64, verbally interpreted as Very Much Acceptable. Among the five aspects, content and language and style ranked first, both obtaining a mean of 4.66, followed by objectives with 4.65, usefulness with 4.62, and organization and presentation with 4.60. All aspects received a Very Much Acceptable rating, indicating that the instructional material demonstrated clear and attainable objectives, relevant and meaningful content, systematic organization, appropriate language, and practical usefulness in facilitating Science instruction. These findings suggest that the material is a suitable supplementary learning resource that can support teachers in delivering lessons and encourage pupils' active participation and understanding of scientific concepts. Its high acceptability further indicates that the developed material is responsive to instructional needs and appropriate for classroom utilization. This finding is supported by Bermudez in 2024, who emphasized that interactive learning materials promote learner engagement, conceptual understanding, critical thinking, and problem-solving skills. Similarly, Sison in 2024 established that well-developed instructional materials could attain high-quality evaluations in terms of content, instructional quality, and technical aspects

3.4. Significant Difference on the Level of Acceptability of the Developed Instructional Material in Teaching Science as Perceived by Respondents with Respect to the Different Aspects in Terms of Their Profile

The findings revealed that there was no significant difference in the respondents' assessment of the developed instructional material in terms of objectives, content, organization and presentation, language and style, and usefulness when grouped according to age, sex, civil status, length of service, position title, and in-service trainings attended, as all computed p-values were greater than the 0.05 level of significance. However, a significant difference was established in the language and style aspect when respondents were grouped according to educational attainment, with a p-value of 0.007. This indicates that teachers generally shared similar assessments of the instructional material regardless of their demographic and professional characteristics, although their educational qualifications influenced their evaluation of its language and style. The finding suggests that teachers with different levels of educational attainment may have varying standards and perspectives regarding language accuracy, clarity, readability, and instructional presentation. Nevertheless, the consistently positive evaluations across the other profile variables demonstrate the material's overall acceptability and suitability as a supplementary Science resource. This is supported by Villar et al. (2022), who found no significant differences in respondents' assessments of the acceptability of Strategic Intervention Materials across several evaluation criteria. Similarly, Cordero (2024) established that competency-based infographic materials in Science were acceptable to teacher-respondents and could be utilized as supplementary instructional resources.

4. CONCLUSIONS AND RECOMMENDATIONS

The study concluded that the developed instructional material in teaching Science was systematically designed based on the prescribed curriculum competencies and was found to be very much acceptable in terms of objectives, content, organization and presentation, language and style, and usefulness, obtaining a composite mean of 4.64. Its interactive features, including solo and team play, life counts, icon selection, customizable settings, and a word editor, provide opportunities for engaging and flexible Science instruction. The findings further established that teachers generally shared similar assessments of the instructional material regardless of their age, sex, civil status, length of service, position title, and in-service trainings attended. However, educational attainment showed significant differences in the assessment of language and style, indicating that academic qualifications may influence teachers' evaluation of instructional language and presentation. Overall, the developed material is a suitable supplementary resource that can support teachers in delivering Science lessons and enhance pupils' understanding of the major organs of the human body and their respective functions.

It is recommended that Science teachers utilize and integrate the developed instructional material into their classroom activities to promote interactive, meaningful, and learner-centered instruction. School administrators may support its adoption and encourage the development of similar innovative instructional resources in Science and other learning areas. The material may also be shared with other schools and evaluated across different grade levels to determine its applicability in varied educational settings. Periodic review and refinement are encouraged, particularly in terms of language and style, to ensure its continued appropriateness, clarity, and alignment with curriculum standards and pupils' learning needs. Furthermore, teachers may provide continuing feedback regarding its implementation to improve its instructional features and usability. Future researchers may conduct related studies involving larger populations,

additional learning competencies, and other variables that may influence the acceptability and effectiveness of interactive instructional materials in elementary Science education.

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