International Journal of
Science, Architecture, Technology and Environment

Infographics for Visual Learning of Historical Events: An Evaluative Study

Ginalyn S. Arayan[1*], Fe M. Dela Cruz, PhD[2]

[1,2]*Agusan Colleges Incorporated, Butuan City*

[*]*Corresponding author*

DOI: https://doi.org/10.63680/ijsate102655.55

Abstract

This study developed and evaluated Infographics as instructional materials for the visual learning of historical events among Grade 6 learners in Araling Panlipunan 6, particularly on the topic Tungo sa Kalayaan ng Pilipinas. Specifically, it examined the quality of the developed infographics in terms of content, format, presentation and organization, and accuracy and currency of information, as evaluated by experts, and determined learners' perceptions of their effectiveness. Guided by Cognitivism Theory, Dual Coding Theory, and the ADDIE Model, the study employed a descriptive-evaluative research design. Five expert validators assessed the instructional materials using the Learning Resources Management and Development System (LRMDS) Evaluation Tool, while 27 Grade 6 learners evaluated their effectiveness through a perception questionnaire. Data were analyzed using weighted mean and standard deviation. Findings revealed that the developed infographics were of high quality, obtaining weighted means of 3.72 for content, 3.90 for format, 3.70 for presentation and organization, and 3.80 for accuracy and currency of information. Learners likewise expressed a very favorable perception of the materials, with an overall weighted mean of 3.92, indicating that the infographics enhanced comprehension, engagement, retention, and understanding of historical events. The study concludes that infographics are effective visual learning resources that support meaningful and engaging learning in Araling Panlipunan.

Keywords: Araling Panlipunan, Historical Events, Infographics, Learner Engagement, Visual Learning

Introduction

The teaching and learning of history and social studies remain a global educational challenge. Students often struggle not only with recalling historical facts but also with developing critical thinking, analytical reasoning, and the ability to connect past events to contemporary contexts.

Results from the 2022 Programme for International Student Assessment (PISA) showed that the Philippines remained among the lowest-performing education systems, ranking 77th out of 81 participants and achieving average scores of 355 in Mathematics, 347 in Reading, and 356 in Science, all significantly below

the OECD averages. These findings indicate ongoing challenges in students' comprehension, critical thinking, and analytical skills, which are essential for effective learning in Social Studies.

Furthermore, reports from the World Bank indicate that educational disruptions, such as those caused by the COVID-19 pandemic, have exacerbated learning losses, particularly in subjects requiring higher-order thinking skills, including social studies.

In the Philippine context, the government has implemented reforms to address these challenges. The Enhanced Basic Education Act of 2013 (RA 10533) mandates a K-12 curriculum that is learner-centered, competency-based, and responsive to developmental needs, with an emphasis on integrating innovative instructional strategies. Complementing this, Republic Act No. 12028 (ARAL Program) provides interventions for learners who fall below minimum proficiency, underscoring the need for effective instructional resources to support learning recovery. Despite these legislative measures, recent NAT assessments indicated that many Grade 6 learners continued to perform below the 60 mean percentage score level in Araling Panlipunan for School Year 2024-2025, signaling low mastery of historical understanding and critical thinking. Studies likewise showed that learner disengagement in Araling Panlipunan often resulted from passive teaching methods, insufficient instructional resources, and limited contextualization of historical content.

At Antongalon Elementary School, Grade 6 learners experienced difficulties in sequencing historical events, understanding cause-and-effect relationships, and connecting historical concepts to contemporary realities. Specifically, Araling Panlipunan 6 on the topic "Tungo sa Kalayaan ng Pilipinas," which required learners to understand the historical struggle for Philippine independence and its significance in nation-building. Many learners found it challenging to comprehend and retain key events, figures, and causes of the Philippine Revolution, reflecting the need for innovative instructional strategies.

In this context, Infographics as visual learning tools presented a promising strategy for enhancing comprehension and engagement. By simplifying complex historical narratives, visually organizing events, and highlighting key concepts, infographics supported learners in achieving mastery of Araling Panlipunan 6 competencies. Integrating infographics aligned with the objectives of RA 10533 and RA 12028 by promoting learner-centered instruction, engagement, and academic recovery.

Given the persistent low MPS scores and the instructional challenges in Quarter 1 Araling Panlipunan 6, this study evaluated the effectiveness of infographics in the visual learning of historical events, specifically focusing on "Tungo sa Kalayaan ng Pilipinas." The findings provided evidence-based strategies for enhancing social studies instruction and improving learner performance in Philippine elementary education.

Review of Related Studies

This section presents the literature and studies related to the use of infographics for visual learning of historical events. It covers the concepts of variables in thematic presentation.

Research has consistently shown that infographics can improve learners' academic performance across various subjects and educational levels.

In their meta-analysis entitled "The Effectiveness of Using Infographics on Academic Achievement: A Meta-Analysis and Meta-Thematic Analysis," Khlaif and Farid (2021) reviewed studies conducted in different educational contexts worldwide and found that infographic-based instruction significantly improved learners' academic achievement compared to traditional text-based instruction. The authors emphasized that infographics enhance learning by presenting information in a concise, visually structured, and meaningful manner.

Similarly, Lestari and Purnama (2023), in Indonesia, conducted the study"The Effectiveness of Infographics Towards Students' Reading Comprehension." Their findings revealed that learners who utilized infographic materials demonstrated substantial improvement in reading comprehension and posttest

performance. Students reported that visual representations made complex information easier to understand and remember.

In Nigeria, Daramola and colleagues (2025) conducted "Effect of Animated and Static Infographic Instructional Materials on Students' Academic Performance in Isomerism in Chemistry." The study found that learners exposed to animated infographics achieved higher assessment scores than those who used static infographic materials. The results suggest that strategically designed visual materials can increase both engagement and academic performance. Although conducted in Chemistry, the study highlights the potential of infographics in helping learners organize and retain complex information, which is equally important in Araling Panlipunan.

Collectively, these studies indicate that infographics can positively influence learner achievement by simplifying complex concepts and presenting information in an organized and engaging format.

Beyond academic performance, infographics have been shown to enhance learner comprehension, engagement, and participation.

In Chile, Carcamo and Pino (2025) conducted the study "Developing EFL Students' Multimodal Literacy with the Use of Infographics." The researchers found that infographic-based instruction improved learners' reading comprehension and encouraged active participation during lessons. Learners reported that visual materials made information easier to access and understand.

Likewise, a Philippine study published in the International Journal of Research and Innovation in Social Science (2025) found that 97.1 percent of learners believed that creating and using infographics improved their understanding of complex concepts. Participants noted that visual organization helped them recognize relationships among ideas, understand sequences, and remember key information more effectively.

Similarly, Campos (2025), in the Portuguese study"Juicy or Dry? A Comparative Study of User Engagement and Information Retention in Interactive Infographics," found that visually appealing infographic designs increased learners' interest and time on task. However, the study also revealed that retention largely depended on the clarity and organization of content rather than visual attractiveness alone.

These findings suggest that infographics contribute to meaningful learning by improving learners' comprehension, maintaining attention, and increasing engagement with instructional content.

The effectiveness of infographics depends largely on how information is designed and presented.

In China, He et al (2024) conducted the study "Visual Harmony: Text-Visual Interplay in Circular Infographics." Their research examined how the integration of text and visuals influences learning among university students. The study found that strategically combining verbal and visual elements improved understanding, memory retention, and information recall. The researchers concluded that strong visual-text integration enhances cognitive processing and supports meaningful learning.

Similarly, Nguyen and Lee (2024), in South Korea, conducted "Infographic Design Principles for Enhanced Learning Engagement." Their study demonstrated that design elements such as contrast, alignment, visual hierarchy, and content chunking reduced cognitive load and significantly improved learner performance and engagement.

In Portugal, Lourenço and Dias (2023) explored the educational value of infographics through their study"Infographics as a Tool for Visual Literacy in Education." They found that learners who regularly interacted with well-designed infographics developed stronger visual literacy skills, including improved interpretation, analysis, and critical evaluation of visual information.

These studies demonstrate that properly designed infographics promote understanding, reduce cognitive burden, and strengthen learners' ability to interpret visual information.

Studies conducted in the Philippines highlight continuing challenges in learner achievement and engagement in Araling Panlipunan.

Results of the Department of Education National Achievement Test for School Year 2024-2025 revealed that many learners performed below mastery levels in competencies requiring analytical thinking, interpretation, and historical understanding. These findings emphasize the need for innovative instructional materials that can improve learner comprehension and retention of historical concepts.

Supporting this need, Garcia and Santos (2025) conducted the study"Visual Aids in Araling Panlipunan Instruction" among Grade 5 learners in a Philippine elementary school. Their findings showed that learners responded positively to visual teaching materials and demonstrated improved understanding of timelines, historical relationships, and event sequences. While the study did not specifically focus on infographics, it provides evidence that visual learning materials can enhance social studies instruction.

These findings support the integration of infographic-based learning resources in Araling Panlipunan, particularly for topics involving historical events and chronological relationships.

The effectiveness of educational infographics depends not only on the accuracy of information but also on how content is organized and presented. Researchers emphasize that quality infographics should be evaluated based on content accuracy, organization, readability, visual appeal, learner appropriateness, and instructional effectiveness.

According to Khlaif and Farid (2021), effective infographics contain accurate, curriculum-aligned, and learner-centered information. They emphasized that educational materials should present only the most essential information and organize it in a way that facilitates learning without overwhelming learners.

Likewise, Nguyen and Lee (2024) found that learners achieved better learning outcomes when information was presented through meaningful sections, balanced layouts, and clear visual hierarchies. Their study emphasized that organization and structure help learners process information more efficiently.

These findings support the principles of Cognitivism Theory, which posits that learning occurs when learners actively organize and connect new information with existing knowledge. From this perspective, instructional materials should present ideas logically, group related concepts together, and organize information from simple to complex. In history instruction, historical events should be arranged chronologically, enabling learners to understand sequences, causes, and consequences of events. Timelines, headings, and content segmentation help reduce cognitive overload and facilitate meaningful learning.

The organization of infographic content is also supported by Paivio's Dual Coding Theory, which explains that learners understand information more effectively when verbal and visual representations are presented simultaneously. Educational infographics apply this principle by combining concise text with images, illustrations, symbols, icons, maps, and timelines. Through the integration of visual and verbal information, learners develop multiple pathways for processing, storing, and retrieving information.

Supporting this principle, He et. al (2024) found that learners demonstrated better comprehension when textual information was strategically integrated with relevant visuals. Similarly, Lourenço and Dias (2023) reported that organized visual presentations improved learners' ability to interpret and analyze information, while Campos (2025) emphasized that information retention depends greatly on clarity, readability, and logical sequencing of ideas.

Based on these studies and theoretical foundations, instructional infographics should be evaluated in terms of content accuracy, curriculum alignment, visual-text integration, readability, logical organization, learner appropriateness, and overall instructional effectiveness. These criteria are consistent with the dimensions assessed in the Learning Resources Management and Development System (LRMDS) Evaluation Tool, namely content, format, presentation and organization, and accuracy and currency of information.

For the present study, these principles guided the development of the infographics for Tungo sa Kalayaan ng Pilipinas. Historical events were arranged chronologically through timelines, related concepts were grouped into meaningful sections, and textual explanations were supported by relevant visual aids. This organization was intended to strengthen comprehension, engagement, and retention among Grade 6 learners.

The reviewed literature consistently demonstrates that infographics positively influence academic achievement, comprehension, engagement, and visual literacy. Studies conducted in different countries show that learners benefit from instructional materials that combine concise textual information with meaningful visual representations. Research also highlights the importance of logical organization, visual hierarchy, readability, and curriculum alignment in ensuring the effectiveness of infographic-based instruction.

The principles of Cognitivism Theory and Dual Coding Theory provide a strong theoretical foundation for the development of educational infographics. Cognitivism emphasizes the organized presentation of information to facilitate learning, while Dual Coding Theory explains the value of combining visual and verbal representations. These principles support the design and evaluation of the infographics developed in this study.

The quality of educational infographics is commonly assessed using established evaluation criteria to ensure that instructional materials effectively support learning. Among the most recognized standards are content, format, presentation and organization, and accuracy and currency of information. These dimensions are also reflected in the evaluation frameworks used by the Learning Resources Management and Development System (LRMDS) for determining the quality and suitability of instructional resources.

In terms of content, educational infographics should be aligned with curriculum standards, learning objectives, and learners' needs. Elaldı and Çifçi (2021), in their study *"The Effectiveness of Using Infographics on Academic Achievement: A Meta-Analysis and a Meta-Thematic Analysis,"* emphasized that effective infographics present essential information in a concise, meaningful, and learner-centered manner. The authors explained that instructional infographics facilitate learning when content is carefully selected, relevant, and directly connected to the intended learning outcomes.

The criterion of format refers to the visual appearance and design elements of the infographic, including typography, color schemes, illustrations, spacing, layout, and visual hierarchy. In the literature review*"Infographics in Educational Settings: A Literature Review,"* Sameer Ahmad Bhat and Suzan Alyahya (2023) reported that visually appealing and well-designed infographics enhance readability, facilitate information processing, and improve learner engagement. The researchers emphasized that appropriate formatting contributes significantly to the effectiveness of infographics as instructional tools.

Another important criterion is presentation and organization, which focus on the logical sequencing, arrangement, and coherence of information. Çaka and Dursun (2022), in their study *"Evaluation of the Effectiveness of Different Infographic Designs,"* found that learners performed better when information was presented through visually organized and systematically structured infographics. Their findings indicated that clear organization reduces cognitive load and helps learners understand relationships among concepts more effectively. The study further emphasized that information should be arranged in a simple, understandable, and coherent manner to support meaningful learning.

The criterion of accuracy is particularly important because instructional materials serve as sources of knowledge for learners. According to the LRMDS Educational Soundness Evaluation Checklist, quality learning resources must contain accurate, reliable, and factually correct information consistent with accepted knowledge within the discipline. Educational materials should use appropriate terms, symbols, diagrams, and representations to avoid misconceptions and ensure the correct understanding of concepts.

Closely related to accuracy is the up-to-datedness or currency of information. Educational materials should reflect current curriculum standards, recent educational developments, and updated factual information. The DepEd Learning Resources Management and Development System guidelines emphasize that instructional resources must undergo evaluation to ensure that information remains relevant and responsive to learners' present educational needs. Current and updated information enhances the credibility, relevance, and instructional value of learning resources.

Taken together, these studies suggest that high-quality educational infographics should possess accurate and updated content, appropriate formatting, logical presentation and organization, and strong alignment with curriculum objectives. These criteria serve as important indicators in determining the quality, acceptability, and instructional value of infographic-based learning resources. Such dimensions provide the basis for evaluating the infographics developed in this study for Grade 6 Araling Panlipunan learners.

The organization of content is a critical factor in the effectiveness of educational infographics. According to Cognitivism Theory, learning occurs when learners actively process, classify, and connect new information with existing knowledge structures. From this perspective, instructional materials should be designed in a manner that facilitates the mental organization of information. Concepts should be presented in a logical sequence, with related ideas grouped together to enable learners to recognize patterns and relationships. Proper organization helps reduce cognitive overload and allows learners to process information more efficiently.

Supporting this view, Nguyen and Lee (2024) found that infographics employing clear visual hierarchies, content chunking, and systematic sequencing significantly improved learner engagement and comprehension. Their study emphasized that information divided into meaningful sections enabled learners to focus on essential concepts while reducing unnecessary cognitive demands. Likewise, Çaka and Dursun (2022) reported that learners performed better when information was presented in a simple, structured, and coherent format, suggesting that well-organized instructional materials facilitate understanding and retention.

In history education, the principles of Cognitivism Theory suggest that information should be organized from simple to complex and from earlier events to later developments. Historical events are best presented chronologically because chronological sequencing enables learners to establish temporal relationships, identify causes and consequences, and construct meaningful interpretations of historical developments. Through timelines, headings, subheadings, and content segmentation, learners are guided in organizing information mentally, thereby strengthening historical understanding and recall.

The organization of infographic content is likewise supported by Paivio's Dual Coding Theory, which posits that learning becomes more effective when information is processed through both verbal and visual systems. Educational infographics facilitate dual processing by integrating concise textual explanations with relevant images, icons, symbols, maps, diagrams, and timelines. When visual representations directly correspond to textual information, learners are able to create stronger mental connections and multiple pathways for information retrieval.

Supporting this principle, He et al. (2024), in their study Visual Harmony: Text-Visual Interplay in Circular Infographics, found that learners demonstrated greater understanding and information retention when textual content was strategically integrated with relevant visual elements. The researchers concluded that effective visual-text relationships enhanced cognitive processing and improved learning outcomes. Similarly, Lourenço and Dias (2023) reported that organized visual presentations strengthened learners' visual literacy and supported their ability to interpret and analyze information effectively.

Furthermore, Campos (2025) found that learners retained information more successfully when infographic content followed a logical sequence and maintained clarity throughout the presentation. The study emphasized that visual attractiveness alone does not guarantee learning; rather, the arrangement and coherence of information play a significant role in promoting comprehension and retention. These findings suggest that effective educational infographics should prioritize logical sequencing, conceptual grouping, readability, and meaningful visual integration.

Taken together, Cognitivism Theory and Dual Coding Theory suggest that infographic content should be logically organized and supported by relevant visual elements to promote meaningful learning. By presenting information chronologically, grouping related concepts, and integrating text with visuals,

infographics help learners understand relationships among historical events and improve information retention. These principles guided the development and evaluation of the infographics in the present study.

The reviewed literature established the potential of infographics as effective instructional materials for Araling Panlipunan. The studies provided empirical and theoretical support for the development and evaluation of infographic-based learning resources designed to enhance Grade 6 learners' understanding of Tungo sa Kalayaan ng Pilipinas.

Theoretical/Conceptual Framework

This study was anchored on Cognitivism Theory and Dual Coding Theory, which provided a strong theoretical foundation for understanding how infographics enhanced the visual learning of historical events among Grade 6 learners in Araling Panlipunan, particularly in the topic "Tungo sa Kalayaan ng Pilipinas." These theories explained how learners processed, organized, stored, and retrieved information, and how visual materials supported meaningful learning.

Cognitivism Theory, developed by cognitive psychologists such as Jean Piaget, emphasized that learning was an active mental process in which learners acquired, organized, and connected new information with their existing knowledge. Unlike behaviorist perspectives that focused on observable actions, cognitivism highlighted internal mental processes such as attention, perception, comprehension, memory, and problem-solving. Learning occurred when individuals actively processed information and constructed understanding through meaningful experiences.

In the context of this study, infographics supported cognitive learning by presenting historical information in an organized and visually structured manner. Through the use of timelines, illustrations, symbols, color coding, and concise text, learners were able to process complex historical concepts more easily and understand relationships among events. The visual organization of information reduced cognitive overload and helped learners identify important details, sequence events chronologically, and establish cause-and-effect relationships. As a result, learners were better able to comprehend, retain, and recall historical information.

Furthermore, Paivio's Dual Coding Theory (1991) explained that learning became more effective when information was processed through two cognitive systems: the verbal system and the visual system. According to the theory, learners developed stronger understanding and memory when information was presented using both words and images rather than words alone. The combination of visual and verbal representations created multiple pathways for information processing and retrieval, leading to improved comprehension and retention.

The use of infographics in Araling Panlipunan embodied the principles of Dual Coding Theory by integrating textual explanations with visual elements such as pictures, icons, diagrams, and timelines. For the topic "Tungo sa Kalayaan ng Pilipinas," learners simultaneously read, observed, and analyzed historical events, personalities, and significant developments. This dual processing helped learners form clearer mental representations of historical concepts and made learning more engaging and meaningful.

Taken together, Cognitivism Theory and Dual Coding Theory suggested that infographics served as effective instructional materials because they promoted active cognitive processing and facilitated learning through both visual and verbal channels. Cognitivism Theory explained how learners organized and constructed knowledge from the information presented, while Dual Coding Theory explained how visual and textual elements worked together to strengthen understanding and memory. These theories supported the assumption that infographic-based instruction enhanced learners' comprehension, engagement, and retention of historical events in Araling Panlipunan.

This study was anchored on the ADDIE Model, which served as the framework for the development and evaluation of infographics for the visual learning of historical events in Araling Panlipunan 6. The model provided a systematic and learner-centered process for creating instructional materials that addressed learners' needs while ensuring the quality and effectiveness of the developed resource.

The process began with the Analysis Phase, where the least mastered learning competencies in Araling Panlipunan 6, particularly under the topic "Tungo sa Kalayaan ng Pilipinas," were identified. This phase enabled the researcher to determine the learning gaps and instructional needs of Grade 6 learners. The information gathered served as the foundation for the content and focus of the infographic materials.

The next phase was the Design Phase, wherein the learning objectives, content organization, visual elements, color schemes, illustrations, timelines, and overall structure of the infographics were carefully planned. During this stage, emphasis was placed on creating visually appealing and developmentally appropriate materials that simplified complex historical concepts and facilitated understanding among learners.

Following the design stage was the Development Phase, where the infographic materials were created based on the planned content and visual design. Historical events, important personalities, key concepts, and timelines were integrated into the materials using appropriate textual and graphical representations. The developed infographics underwent expert validation using the Learning Resources Management and Development System (LRMDS) Evaluation Tool to ensure their accuracy, relevance, organization, and overall quality. Suggestions and recommendations from the experts were incorporated to further improve the materials.

The study then proceeded to the Implementation Phase, where the validated infographics were utilized among Grade 6 learners during Araling Panlipunan instruction. The infographic materials served as visual learning resources that provided learners with organized and meaningful presentations of historical events. Through exposure to these materials, learners gained a better understanding of historical concepts, relationships among events, and important details related to the struggle for Philippine independence.

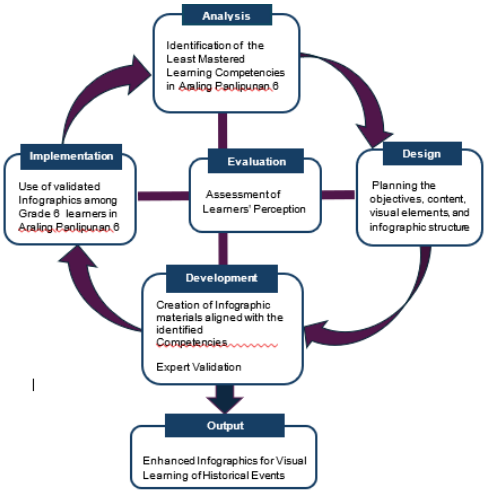
At the center of the framework was the Evaluation Phase, highlighting its continuous role throughout the development process. Evaluation served as the basis for determining the effectiveness and quality of the developed infographics. This phase included the assessment of the instructional materials through learners' perception, which provided valuable feedback regarding the clarity, usefulness, visual appeal, engagement, and effectiveness of the infographics as learning tools. The results of the evaluation guided the revision and improvement of the materials and ensured that the instructional resource remained responsive to learners' needs.

The entire framework was supported by Cognitivism Theory and Dual Coding Theory. Cognitivism Theory explained that learning occurred when learners actively processed, organized, and stored information to construct meaningful understanding. The structured presentation of historical information in the infographics helped learners connect new knowledge with prior experiences, thereby facilitating comprehension and retention. Dual Coding Theory further strengthened the framework by explaining that learners processed information more effectively when verbal and visual representations were presented simultaneously. By combining text, images, symbols, graphics, and timelines, the infographics created multiple pathways for learning, making historical concepts easier to understand and remember.

Guided by the ADDIE Model and supported by Cognitivism Theory and Dual Coding Theory, this study emphasized the systematic development, implementation, and evaluation of infographic-based instructional materials. Through the identification of least mastered competencies, the design and development of quality learning resources, their classroom implementation, and continuous evaluation, the study produced enhanced infographics for the visual learning of historical events. Ultimately, the framework highlighted the potential of

infographics to improve learners' comprehension, engagement, and retention of historical concepts in Araling Panlipunan 6.

Figure 1. *The Research Paradigm Showing the Flow of the Study*



Objectives of the Study

This study evaluated the effectiveness of infographics as a visual learning tool in enhancing the academic performance of Grade 6 learners in Araling Panlipunan at Antongalon Elementary School, Butuan City, during the School Year 2026–2027. Specifically, it sought to: (1) design and develop infographics for the visual learning of historical events; (2) determine the evaluation of experts on the developed infographics as an instructional tool for Araling Panlipunan 6 in terms of content, format, presentation and organization, and accuracy and currency of information; (3) determine the reactions of Grade 6 learners toward the developed infographics for the visual learning of historical events; and (4) propose enhancements to the developed infographics based on the findings of the study.

Methodology

This study employed a descriptive-evaluative research design to evaluate the effectiveness of infographics as a visual learning tool in enhancing the learning of historical events among Grade 6 learners in Araling Panlipunan at Antongalon Elementary School, Butuan City. The study involved 27 Grade 6 Quezon learners who were selected through complete enumeration. Data were gathered using the Learning Resources Management and Development System (LRMDS) Evaluation Rating Sheet, which was administered to five expert evaluators to assess the developed infographics in terms of content, format, presentation and organization, and accuracy and currency of information, and a Learners' Perception Questionnaire to determine learners' reactions to the material. The instruments underwent expert validation prior to administration. Following the necessary approvals, the developed infographics were utilized in the classroom, after which learners completed the perception questionnaire. Data were analyzed using the weighted mean to determine the experts' evaluation of the instructional material and the learners' reactions in terms of its

effectiveness as a visual learning tool. The findings served as the basis for enhancing the developed infographics.

Results and Discussion

Problem 1. How may infographics for the visual learning of historical events be designed and developed?

The design and development of the infographics for visual learning of historical events were guided by the ADDIE Model, consisting of the Analysis, Design, Development, Implementation, and Evaluation phases. In this study, the Evaluation Phase served as the central component of the development process. Evaluation was continuously conducted throughout the development cycle to ensure that the materials remained responsive to learners' needs, aligned with curriculum standards, and suitable for classroom instruction. The entire process was further supported by Cognitivism Theory and Dual Coding Theory, which provided the theoretical foundation for the design and utilization of the infographics as visual learning materials.

During the Analysis Phase, the researcher reviewed the learning competencies prescribed in the Revised K–10 Curriculum and identified the five least mastered competencies in Quarter 1 of Araling Panlipunan 6. Results of the item analysis from the previous school year of the Grade VI-Quezon, together with classroom assessment data, revealed that learners attained an overall mastery level of only 72 percent in these identified competencies, which was below the expected mastery standard of 75%. Learners encountered difficulties in understanding historical events, recalling important dates and significant personalities, and explaining the cause-and-effect relationships among key events in Philippine history. These findings served as the basis for identifying the learners' instructional needs and determining the content to be included in the infographics. Furthermore, continuous evaluation during this phase ensured that the materials being developed were responsive to the identified learning gaps and aligned with the learners' needs and curriculum requirements.

The analysis process reflected the principles of Cognitivism Theory, which explains that learning occurs through active mental processing, organization, and integration of information. The identified learning difficulties suggested that learners needed instructional materials that would help them organize historical information into meaningful cognitive structures. By determining the least mastered competencies and specific learning difficulties, the researcher was able to develop materials that would facilitate understanding, comprehension, and retention of historical concepts.

The Design Phase involved planning the learning objectives, organization of content, visual layout, illustrations, timelines, color schemes, icons, and textual information of the infographics. Historical events were arranged chronologically to help learners understand the sequence and relationship of events leading to Philippine independence. Related concepts were grouped into meaningful sections to improve readability and comprehension. Evaluation continued during this stage through careful review of the content and visual structure to ensure alignment with the intended competencies and learner characteristics.

The design of the infographics was strongly guided by Dual Coding Theory, which posits that learners process information more effectively when verbal and visual information are presented simultaneously. The researcher incorporated concise textual explanations together with pictures, symbols, illustrations, maps, and timelines to enable learners to process information through both visual and verbal channels. Through this approach, learners were expected to develop stronger mental representations of historical events, resulting in improved understanding and memory retention.

In the Development Phase, the infographic materials were created based on the planned content and visual design. Historical information, illustrations, graphics, and timelines were integrated into a series of

infographic pages aligned with the competencies under Tungo sa Kalayaan ng Pilipinas. The organization of content from simple to complex concepts reflected the principles of Cognitivism Theory, which emphasizes logical organization and meaningful learning. Likewise, the integration of visuals and text embodied the principles of Dual Coding Theory by providing learners with multiple pathways for processing and recalling information.

Evaluation played a crucial role during the development phase. The completed infographics underwent expert validation using the Learning Resources Management and Development System (LRMDS) Evaluation Tool. Feedback from the experts regarding content, format, presentation and organization, and accuracy and currency of information served as the basis for revising and improving the materials. This demonstrates the central role of evaluation in ensuring the quality and effectiveness of the developed instructional materials before classroom implementation.

The Implementation Phase involved the utilization of the validated infographics among Grade 6 Quezon learners of Antongalon Elementary School. The materials were used as supplementary instructional resources during lessons on historical events related to the Philippine struggle for independence. Through exposure to the infographics, learners were provided with visually organized presentations of historical concepts, personalities, and events. Evaluation remained integral during implementation through observations and learner feedback, enabling the researcher to determine whether the materials effectively supported learning.

The implementation phase further demonstrated the application of Cognitivism Theory and Dual Coding Theory. Learners actively processed information presented in organized formats, enabling them to connect new historical concepts with prior knowledge. At the same time, learners interpreted information through both verbal explanations and visual representations, which facilitated deeper understanding and improved retention of important historical facts and relationships among events.

At the center of the entire process was the Evaluation Phase, which continuously guided the development, revision, implementation, and enhancement of the infographics. Evaluation was not merely the final stage but served as the basis for decision-making throughout the instructional material development process. Expert evaluations ensured the quality, accuracy, relevance, and organization of the materials, while learners' perception surveys provided valuable feedback regarding learners reactions, clarity, visual appeal, and instructional usefulness of the infographics. The results of these evaluations informed revisions and enhancements, ensuring that the materials remained responsive to learners' needs and aligned with curriculum objectives.

Overall, the development of the infographics demonstrated the integration of the ADDIE Model, Cognitivism Theory, and Dual Coding Theory. The ADDIE Model provided the systematic framework for designing and developing the materials, while Cognitivism Theory explained how organized and meaningful presentation of information supported learning. Dual Coding Theory explained how the combination of visual and verbal elements enhanced comprehension and memory retention. With evaluation serving as the central element throughout the process, the developed infographics were able to address the identified learning difficulties of Grade 6 learners and provide an effective visual learning resource for the study of historical events in Araling Panlipunan.

Problem 2. How do experts evaluate the developed infographics as an instructional tool for Araling Panlipunan 6 in terms of content, format, presentation and organization, and accuracy and currency of information?

Five experts evaluated this instructional tool (infographics) for Araling Panlipunan 6 . The evaluation results are shown in the following Tables.

Table 1 presents the experts' evaluation of the infographics in terms of content. The findings reveal the highest rating (wtd mn= 4.00 , SD = 0.000) seen at indicator stating that the material is, " *free of ideological, cultural, religious, racial, gender biases and prejudices*." The standard deviation indicates complete agreement among the five evaluators, demonstrating that the infographics are viewed as inclusive, objective, and free from inappropriate biases.

Table 1. Evaluation of the Infographics in terms of content

Indicators	wtd mn	SD	Verbal description	Interpretation
1.Content is suitable to the student's level of development.	3.80	.447	Very satisfactory	
2.Material contributes to the achievement of specific objectives of the subject area and grade/year level for which is intended.	3.80	.548	Very satisfactory	High quality
3.Material provides for the development of higher cognitive skills such as critical thinking, creativity, learning by doing inquiry, problem solving, etc.	3.60	.545	Very satisfactory	
4.Material is free of ideological, cultural, religious, racial, gender biases and prejudices.	4.00	.000	Very satisfactory	High quality
5.Material enhances the development of desirable value and traits	3.60	.548	Very satisfactory	
6.Material has the potential to arouse interest of target readers	3.80	.447	Very satisfactory	High quality
7. Adequate warning/cautionary notes are provided into and activities where safety and health are of concern.	3.60	.548	Very satisfactory	
Average weighted mean	**3.72**		**Very satisfactory**	**High quality**

Legend : (1) 1.0-1.49 poor /very poor quality (2) 1.5-2.49 unsatisfactory / poor quality (3) 2.50 -3.49 satisfactory/good quality (4) 3.50-4.00 very satisfactory/high quality

The indicators concerning the suitability of the content to the learners' developmental level and the material's potential to arouse the interest of target readers both obtained a weighted mean of 3.80, with relatively low standard deviations of 0.447. These results indicate that the experts strongly recognized the appropriateness and engaging quality of the infographic content. The findings suggest that the material is designed at a level that learners can understand while incorporating content capable of sustaining their attention and interest. On the other hand, indicators # 3 , #5 and #7 although illustrate the lowest rating (wtd mn= 3.60, SD =.548) still remain to be in the level of high quality.

The consistently high ratings across all indicators suggest that the infographics contain content that is of high quality (ave wtd mn= 3.72) that is generally suitable for use as an instructional material for the target

learners. This indicates that the experts confirm that the content of the infographics are appropriate, relevant, developmentally suitable, engaging, and responsive to the intended learning objectives.

Khlaif and Farid (2021) emphasized that effective infographics should contain accurate, relevant, curriculum-aligned, and learner-appropriate content to facilitate meaningful learning. Similarly, Lestari and Purnama (2023) noted that educational infographics should present information in a simplified yet clear manner while maintaining alignment with the intended learning objectives. The very satisfactory ratings obtained by the developed infographics in terms of content indicate that these characteristics were evident in the materials. Thus, the findings affirm the observations of previous researchers that well-designed infographics contribute to the delivery of relevant, understandable, and educationally meaningful content.

Moreover, Carcamo and Pino (2025) explained that instructional infographics become more effective when they promote learner engagement while ensuring that information remains meaningful and understandable. The experts' evaluation confirms that the developed infographics successfully met these standards by providing content that is relevant, learner-centered, and suitable for Grade 6 learners.

During the development of the infographics, careful attention was given to ensuring that the content was aligned with the Grade 6 Araling Panlipunan competencies and presented in a manner that was appropriate, accurate, and engaging for the learners. The positive evaluation provided by the experts validates the efforts exerted in selecting relevant historical information, simplifying complex concepts, and organizing the content according to the learners' level of understanding. As a classroom teacher, the researcher has observed that learners often encounter difficulties in understanding and retaining historical events when presented through traditional text-based instruction alone. Thus, the favorable ratings obtained in this study affirm the potential of the researcher-developed infographic materials on Tungo sa Kalayaan ng Pilipinas, to make historical concepts more accessible, meaningful, and engaging for elementary learners.

Table 2presents the evaluation of the different components of the format as follows:
On prints. The prints component reveals an average weighted mean of 3.95, interpreted as very satisfactory, indicating that the printed presentation of the infographics is highly appropriate for the intended learners, the Grade 6 Quezon learners of Antongalon Elementary School. The very satisfactory rating indicates that the printed material is generally clear and free from major printing defects. The slightly lower rating (wtd mn= 3.80, SD= .447) suggests minor room for improvement in print quality.

Table 2. Evaluation of the Infographics in terms of format

Indicators		Wtd mn	SD	Verbal interpretation	Interpretation
1.Prints					
1.1.	Size of letters is appropriate to the intended user.	4.00	.000	Very satisfactory	
1.2.	Spaces between letters and words facilitate reading.	4.00	.000	Very satisfactory	High quality
1.3.	Font is easy to read.	4.00	.000	Very satisfactory	
1.4.	Printing is of good quality (i.e., no broken letters, placed screen registration).	3.80	.447	Very satisfactory	

Average weighted mean	**3.95**		**Very satisfactory**	**High quality**
2. Illustrations				
2.1. Simple and easily recognizable.	3.60	.548	Very satisfactory	
2.2. Clarify and supplement the text.	3.80	.447	Very satisfactory	
2.3. Properly labelled or captioned (if applicable) .	3.60	.548	Very satisfactory	High quality
2.4. Realistic / appropriate colors.	3.40	.894	satisfactory	Good quality
2.5. Attractive and appealing.	3.80	.447	Very satisfactory	
2.6. Culturally relevant.	3.80	.548	Very satisfactory	
Average weighted mean	**3.66**		**Very satisfactory**	**High Quality**
3. Design and Layout				
3.1. Attractive and pleasing to look at.	3.60	.548	Very satisfactory	High quality
3.2. Simple (i.e., does not distract the attention of the reader).	3.20	.837	satisfactory	Good quality
3.3. Adequate illustration in relation to text.	3.40	.548	satisfactory	Good quality
3.4 Harmonious blending of elements (e.g., illustrations and text).	3.20	.837	satisfactory	good quality
Average weighted mean	**3.35**		**satisfactory**	**Good quality**
4. Paper and Binding : indicators				
4.1. Paper used contributes to easy reading.	3.40	.548	satisfactory	Good quality
4.2. Durable binding to withstand frequent use.	3.32	.460	satisfactory	Good quality (wm=3.66)
5. Size and Weight of Resource				High quality
5.1. Easy to handle.	4.00	.000	Very satisfactory	
5.2. Relatively light.	3.80	.548	Very satisfactory	
Overall weighted mean	**3.90**		**Very satisfactory**	**High quality**

Legend : (1) 1.0-1.49 poor /very poor quality (2) 1.5-2.49 unsatisfactory / poor quality (3) 2.50 -3.49 satisfactory/good quality (4) 3.50-4.00 very satisfactory/high quality

On illustrations. Findings show that the illustrations generally (ave. wtd mn=3.66) support the instructional purpose of the infographics and enhance the presentation of information. Experts considered the illustrations sufficiently simple and recognizable, clear and relevant that learners could readily understand the visual representations. However, results on indicator realistic/appropriate colors (WM = 3.40, SD = 0.894) manifested the lowest-rated indicator and was rated as Satisfactory or of Good Quality. This implies that color selection and consistency could be further refined.

On design and lay-out. This component shows a low rating from the evaluators. (ave, wtd mn=3.35) compared with the other components. This implies that some design elements may potentially compete for

learners' attention, indicating a need to simplify or reduce unnecessary visual features. It is also to be noted that harmonious blending of elements such as illustrations and text (wm = 3.20, SD = 0.837) indicates a satisfactory rating implying further adjustment in terms of spacing, alignment, proportion, and overall composition.

On paper and binding**.** This component indicates that the physical .characteristics of the resource are generally satisfactory (wtdm= 3.40, SD=.548), indicating that the paper was generally appropriate for reading. On the other hand, durability of the binding, also presents the lowest rating(wm=3.32 **,** SD=.460) interpreted as Good Quality. This suggests that the material is considered adequately constructed for use, although improvements in paper quality and binding durability could further enhance its suitability for repeated classroom use.

On size and weight of resource. This component illustrates a favorable evaluation rating interpreted as of high quality(ave. wtd mn=3.90) indicating unanimous agreement among experts that the infographic resource is convenient and manageable for learners. The overall evaluation confirms that the infographics is a high-quality learning tool for visual learning of historical events that is appropriate, readable, attractive, culturally relevant, and practical for classroom use**.**

The findings support the literature reviewed in Chapter 2, which emphasizes the importance of design and visual presentation in educational infographics. He et. al (2024) found that the effective integration of text and visual elements enhances learners' comprehension, information processing, and recall. Similarly, Nguyen and Lee (2024) reported that the use of appropriate design principles, such as visual hierarchy, color harmony, readability, and balanced layout, contributes significantly to learner engagement and learning effectiveness. Likewise, Lourenço and Dias (2023) highlighted that well-designed infographics promote visual literacy by helping learners interpret and organize information more efficiently. The overall very satisfactory rating obtained by the developed infographics indicates that the materials exhibit these desirable design characteristics, making them appropriate and effective instructional resources for Grade 6 learners

Table 3 presents the experts' evaluation of the infographics in terms of presentation and organization. Findings indicate that the infographics generally indicate features that are engaging, understandable, appropriately written, and well-organized (ave.wm= 3.70) for the intended learners . As can be seen, the highest rating (wtd mn=4.00, SD =.000) is on , "Sentences and paragraph structures are varied and interesting to the target reader**".** The lowest rating is on, **"**There is a logical and smooth flow of ideas**"** (wtd mn=3.40, SD= .548) , interpreted as Satisfactory. Other indicators describe the features of the presentation and organization of the infographics to be very satisfactory and thus are of high quality. The results manifest the clearness of the material, engaging, learner-appropriate, and readable, with only minor room for improvement in the logical sequencing and flow of ideas.

Table 3. Evaluation of the Infographics in terms of presentation and organization

Indicators	**Wtd mn**	**SD**	**Verbal interpretation**	**Interpretation**
1. Presentation is engaging, interesting, and understandable.	3.80	.447	Very satisfactory	High quality
2. There is a logical and smooth flow of ideas.	3.40	.548	satisfactory	Good quality
3. Vocabulary level is adapted to target reader's likely experience and level of understanding.	3.80	.447	Very satisfactory	High quality
4. Length of sentences is suited to the comprehension level of the target reader.	3.52	.502	Very satisfactory	High quality

5.	Sentences and paragraph structures are varied and interesting to the target reader.	4.00	.000	Very satisfactory	High quality
	Average weighted mean	**3.70**		**Very satisfactory**	**High quality**

Legend: (1) 1.0-1.49 full of errors/very poor quality (2) 1.5-2.49 with major errors / poor quality (3) 2.50 - 3.49 minor errors /good quality (4) 3.50-4.00 no errors present/ high quality

The findings are supported by previous studies highlighting the importance of proper presentation and organization in instructional materials. He et. al (2024) found that learners comprehend information more effectively when text and visual elements are arranged logically and systematically. Their study emphasized that clear organization supports understanding and improves information retention.

Nguyen and Lee (2024) reported that infographics with well-organized layouts, appropriate vocabulary, and clear visual hierarchy contribute significantly to learner engagement and comprehension. The very satisfactory ratings received by the developed infographics indicate that the materials effectively presented information in a manner that learners could easily understand and follow.

Likewise, Lourenço and Dias (2023) stated that properly organized visual learning materials help learners develop better understanding and interpretation of information. The findings of the present study affirm these observations, as the experts recognized the infographics as engaging, understandable, and generally well-organized instructional materials.

The data in Table 2.4 reflect the experts' evaluation in terms of accuracy and currency of information. The findings indicate that the material can be considered reliable and suitable for instructional use, with only minimal attention needed toward eliminating possible typographical or minor presentation errors (wtd mn range =3.60 to 4.00) , verbally described as no errors present and interpreted as high quality.

The results agree with the findings of Khlaif and Farid (2021), who emphasized that accuracy and credibility are among the most important components of educational infographics. Learning materials that contain correct and reliable information contribute significantly to learner understanding and achievement.

Likewise, He et. al (2024) explained that instructional materials become more effective when factual information is accurately presented and properly organized. The absence of conceptual, factual, grammatical, and obsolete information errors in the developed infographics indicates that the materials can be considered dependable resources for classroom instruction. The experts' evaluation further confirms the quality and reliability of the content presented in the infographics.

Table 4. Evaluation of the Infographics in terms of accuracy and currency of information

Indicators	**Wtd mn**	**SD**	**Verbal interpretation**	**Interpretation**
1. Conceptual errors.	3.80	.447	No errors present	High quality
2. Factual errors.	3.80	.447	No errors present	High quality
3. Grammatical errors.	3.80	.447	No errors present	High quality
4. Computational errors.	3.80	.447	No errors present	High quality
5.Obsolete information.	4.00	.000	No errors present	High quality
6. Typographical and other minor errors	3.60	.548	No errors present	High quality
Average weighted mean	**3.80**		**No errors present**	**High quality**

Legend : (1) 1.0-1.49 full of errors/very poor quality (2) 1.5-2.49 with major errors / poor quality (3) 2.50 -3.49 minor errors /good quality (4) 3.50-4.00 no errors present/ high quality

Problem 3. How do Grade 6 learners react to the developed infographics for the visual learning of historical events?

The learners' evaluation of the Infographics for the Visual Learning of Historical Events used as learning tool is presented in Table 3. Among the indicators, two illustrate the highest rating (wm= 4.00 , SD=.000), *"The infographic helps me understand the causes and effects of historical events"* and *"overall, the infographic is visually appealing and easy to use."* The standard deviation value signifies complete agreement among learners, indicating unanimity in their perception that the infographic effectively clarifies historical relationships and presents information in an accessible manner.

Several indicators obtained high weighted means, which denote the clarity of historical event presentation, readability and understandability of text, enjoyment in learning history through infographics, and the ability of the design to focus learners' attention on important information. These findings imply that the infographic successfully integrated visual elements and concise textual content, enabling learners to process information more efficiently. The very low standard deviation (SD = .192) further indicates a high degree of consistency among learners' responses, suggesting that most learners shared similar positive experiences while using the material.

Table 5. Learners' Evaluation of the Infographics for the Visual Learning of Historical Events

Indicators	wtdmn	SD	Verbal description	Interpretation
1.The infographics present historical events clearly.	3.96	.192	Strongly agree	
2.The text in the infographic is easy to read and understand.	3.96	.192	Strongly agree	
3.The sequence of events in the infographic is easy to follow.	3.81	.396	Strongly agree	Very favorable
4.The infographic keeps me interested throughout the lesson.	3.78	.424	Strongly agree	
5.I enjoy learning historical events using the infographic.	3.96	.192	Strongly agree	
6.The visuals in the infographic make learning more fun.	3.89	.320	Strongly agree	Very favorable
7.The infographic helps me understand the causes and effects of historical events.	4.00	.000	Strongly agree	
8.I can remember important historical facts after using the infographic.	3.81	.396	Strongly agree	
9.The infographic helps me identify key figures and their roles in history.	3.93	.267	Strongly agree	
10.The colors and graphics make the infographic attractive.	3.93	.267	Strongly agree	Very favorable
11. The design of the infographic helps me focus on the important information.	3.96	.192	Strongly agree	

12. Overall, the infographic is visually appealing and easy to use.	4.00	.000	Strongly agree	
Average weighted mean	**3.92**		Strongly agree	Very favorable

Legend: (1) 1.0-1.49 strongly disagree /unfavorable (2) 1.50-2.49 disagree/slightly favorable (3) 2.50-3.49 agree /favorable (4) 3.50-4.00 strongly agree/ Very favorable

The indicators related to identifying key historical figures and appreciating the attractiveness of colors and graphics also received very high ratings (wm= 3.93, SD = .267). This result emphasizes the importance of aesthetic and visual design in educational materials. Colors, symbols, illustrations, and graphics do not merely enhance appearance but also function as cognitive supports that help learners organize information, recognize important details, and strengthen memory retention. These findings are consistent with the principles of Dual Coding Theory, which posits that learning becomes more effective when information is processed through both verbal and visual channels. Moreover, learners strongly agree that the visuals made learning more enjoyable (wm = 3.89, SD = .320) and that the sequence of events is easy to follow (wm = 3.81, SD = .396). The logical organization of information likely contributed to learners' understanding of historical chronology.

In addition, the positive evaluation regarding enjoyment indicates that the infographic promoted learner engagement and motivation, which are essential factors in achieving meaningful learning. The indicators *"The infographic keeps me interested throughout the lesson"* (wm= 3.78, SD = .424) and *"I can remember important historical facts after using the infographic"* (wm = 3.81, SD = .396) received the lowest rating but still remain at a high level of favorability. It can also be observed that the relatively higher standard deviations imply slight variations in learners' experiences regarding sustained attention and memory retention. The ratings affirm that the infographic significantly contributed to enhancing learners' interest and recall of historical information.

The findings show evidence (over all wm=3.92) that the learners exhibited a very favorable perception of the infographic material as an instructional tool in facilitating their understanding, interest, retention, and appreciation of historical concepts and events. The consistently high ratings across all indicators illustrate that the infographic successfully met its intended purpose of transforming complex historical information into a more engaging, organized, and meaningful learning experience. Hence, based on the learners' perceptions, the infographic is a highly favorable visual learning tool for learning historical events in Araling Panlipunan 6.

The findings of this study supports the results of other previous research regarding the effectiveness of infographics in education. Khlaif and Farid (2021) found that infographics contribute positively to learners' academic achievement because they simplify complex information and make learning more engaging. Likewise, Lestari and Purnama (2023) reported that students who used infographic-based materials demonstrated higher levels of comprehension compared to those who relied solely on traditional learning materials.

Carcamo and Pino (2025) observation in their study that learners become more motivated and actively engaged when information is presented through visual formats such as infographics. The present findings is in line with this claim as learners strongly agreed that the materials were enjoyable, visually appealing, and helped them better understand historical events.

The results supports Paivio's Dual Coding Theory, which explains that learners understand and remember information more effectively when it is presented through both visual and verbal forms. The high ratings obtained across all indicators suggest that the developed infographics successfully facilitated learners' understanding and retention of historical concepts and events. Based on the experts' evaluation and learners'

feedback, the developed infographics were found to be highly effective and of high quality. However, several indicators received ratings classified as satisfactory or good quality, suggesting the need for further enhancement.

Problem 4. Based on the findings of the study, how may the developed infographics be enhanced?

Improvements may be made in the areas of color selection, design simplicity, illustration-to-text balance, harmonious presentation of visual elements, and logical flow of ideas. Specifically, more consistent color combinations may be utilized to improve visual appeal and readability. Additional visual spacing and simplification of certain design elements may also help minimize distractions and allow learners to focus more on important information.

Likewise, illustrations may be further refined to establish stronger connections with the accompanying text. Improving the alignment, positioning, and balance between images and written content may contribute to better organization and visual harmony. The logical sequencing of information may likewise be strengthened through clearer transitions and timeline markers to make the progression of historical events easier to follow.

Considering the observations of the experts, enhancements in paper quality and binding may also be introduced if the materials are reproduced for regular classroom use to increase durability and usability.

Overall, although the developed infographics were already evaluated as highly effective instructional materials, the proposed enhancements are expected to further improve their quality, visual appeal, and instructional value. These improvements may strengthen the effectiveness of the infographics in helping Grade 6 learners understand historical events and achieve the intended learning competencies in Araling Panlipunan.

Conclusions

Based on the findings of the study, the following conclusions were drawn:

1. The infographics for visual learning of historical events were successfully designed and developed using the ADDIE Model. The development process resulted in instructional materials that were aligned with the Grade 6 Araling Panlipunan competencies and incorporated appropriate visual and textual elements for the topic *Tungo sa Kalayaan ng Pilipinas*.
2. The developed infographics met the established standards for quality instructional materials, as evidenced by the very satisfactory ratings obtained in terms of content, format, and presentation and organization, as well as the absence of errors in the accuracy and currency of information.
3. The learners exhibited a very favorable reaction toward the developed infographics, indicating that the materials were well-received and positively perceived as visual learning resources for Araling Panlipunan 6.
4. Despite the favorable evaluations received by the infographics, certain aspects of the materials, particularly color consistency, design simplicity, visual-text integration, information flow, and physical durability, may still be enhanced to further improve their quality and usability.

Recommendations

Based on the study, the following recommendations were offered:

Araling Panlipunan teachers may utilize the developed infographics as supplementary instructional materials in teaching historical events, particularly the topic Tungo sa Kalayaan ng Pilipinas, to provide learners with visually organized and engaging learning resources.

Teachers and learning resource developers may consider adopting the design features and development process used in this study, particularly the integration of timelines, illustrations, symbols, color coding, and concise textual information, in creating instructional materials for other learning competencies and subject areas.

School administrators may support the use and reproduction of infographic-based learning materials as part of instructional resource enhancement initiatives, considering the favorable evaluations received from both experts and learners.

he developed infographics may be further enhanced by improving color consistency, simplifying certain design elements, strengthening the integration of illustrations and text, improving the logical flow of information, and increasing the durability of the materials for regular classroom use.

These recommendations aim to maximize the use of infographics as effective visual learning tools that can enhance comprehension, engagement, and learning outcomes among elementary learners.

References

Campos, A. (2025). *Juicy or dry? A comparative study of user engagement and information retention in interactive infographics*. University of Porto, Portugal.

Carcamo, M., & Pino, J. (2025). *Developing EFL students' multimodal literacy with the use of infographics*. University of Chile, Chile.

Daramola, T., Adekunle, S., & Oladipo, F. (2025). *Effect of animated and static infographic instructional materials on students' academic performance in isomerism in chemistry*. Nigerian Secondary Schools Journal of Science Education, 12(2), 45–62.

DepEd. (2025). *National Achievement Test (NAT) results, School Year 2024–2025: Araling Panlipunan Grade 6*. Department of Education, Philippines.

Garcia, R., & Santos, L. (2025). *Visual aids in Araling Panlipunan instruction: A pilot study with Grade 5 learners*. Philippine Elementary Education Research Journal, 8(1), 23–38.

He, Q., Li, W., & Zhang, H. (2024). *Visual harmony: Text-visual interplay in circular infographics*. Journal of Visual Communication in Education, 10(4), 55–71.

Khlaif, Z., & Farid, S. (2021). *The effectiveness of using infographics on academic achievement: A meta-analysis and meta-thematic analysis*. Educational Technology Research and Development, 69(6), 3173–3195. https://doi.org/10.1007/s11423-021-10025-x

Lestari, N., & Purnama, D. (2023). *The effectiveness of infographics towards students' reading comprehension*. Journal of Innovative Teaching Methods, 7(2), 14–29.

Lourenço, R., & Dias, P. (2023). *Infographics as a tool for visual literacy in education*. International Journal of Educational Research, 118, 102–117.

Nguyen, T., & Lee, S. (2024). *Infographic design principles for enhanced learning engagement*. Korean Journal of Educational Technology, 41(3), 75–90.

Organization for Economic Co-operation and Development. (2023). *PISA 2022 results (Volume I and II): Country note, Philippines*. OECD Publishing. https://www.oecd.org/en/publications/pisa-2022-results-volume-i-and-ii-country-notes_ed6fbcc5-en/philippines_a0882a2d-en.html

Paivio, A. (1991). *Dual coding theory: Retrospect and current status*. Canadian Journal of Psychology, 45(3), 255-287.

Piaget, J. (1977). *The development of thought: Equilibration of cognitive structures*. Viking Press.

Republic Act No. 10533. (2013). *Enhanced Basic Education Act of 2013*. Official Gazette of the Republic of the Philippines. https://www.officialgazette.gov.ph

Republic Act No. 12028. (2024). *Academic Recovery and Accessible Learning (ARAL) Program Act*. Official Gazette of the Republic of the Philippines. https://www.officialgazette.gov.ph

Valdez, M., Torres, J., & Cruz, R. (2021). *Rubric-based evaluation of instructional infographics for social studies learners*. Philippine Journal of Curriculum and Instruction, 12(1), 44–59.

World Bank. (2021). *The impact of COVID-19 on education: Learning losses and mitigation strategies*. World Bank Education Global Practice. https://www.worldbank.org/en/topic/education/publication/the-impact-of-covid-19-on-education

Acknowledgments

The researcher sincerely gives thanks to all individuals who contributed to the completion of this thesis.

She expresses her gratitude to her adviser, Fe M. Dela Cruz, PhD, for her guidance, support, and encouragement throughout the study.

She also gives thanks to Hercules R. Chanjueco, PhD, Joanna B. Cuenca, PhD and Nelia S. Raganas, PhD for their valuable insights and recommendations that improved this research paper.

Appreciation is extended to the field experts for validating the research instruments and providing helpful suggestions.

The researcher is grateful to Marivic M. Cuizon, PhD, and Isidro M. Biol, PhD, for their guidance and recommendations during the conduct of the study.

To her School Principal, Mr. Orben D. Arconada and colleagues at Antongalon Elementary School for their cooperation and support. Lastly, she acknowledges her Public Schools District Supervisor, Rogelio S. Sultan, EdD, for his leadership and continued support in completing this academic work.

This thesis is lovingly dedicated to my beloved sons, Zhean Gabriel and Kyrie Mathieu, whose love and presence have been my greatest source of inspiration and strength.

To my beloved mother, Felicitas for her unwavering support, sacrifices, and prayers, and to the loving memory of my dear father Victoriano and sisters, Merlinda and Elizabeth, whose encouragement and faith in me continue to inspire my journey.

I also dedicate this work to my Grade 6-Quezon learners, whose enthusiasm and eagerness to learn motivated me to pursue this study and become a better educator.

After ten years of setting this dream aside and finding my way back to it, this achievement stands as a testament to perseverance, faith, and determination. Though this milestone is bittersweet, as some of those who encouraged me are no longer here to celebrate it, their love and memories remain a cherished part of this success.

Above all, I offer this achievement to God Almighty for His endless grace, wisdom, and blessings.

Declaration of Conflicting Interests

The authors declare no potential conflicts of interest with respect to the research, authorship and publication of this article.

Funding

The author received no financial support for the research, authorship and publication of this article.