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Enhancing the Knowledge of Grade 10 Students on Contemporary Issues through Multimedia-Based Instruction

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ABSTRACT

This research action aimed to determine the effectiveness of Multimedia Based Instruction (MBI) in enhancing the knowledge and academic performance of Grade 10 – St. Peter students in Araling Panlipunan 10 at Candelaria Institute of Technology of Cabadbaran, Inc. (CITCI). A one-group pretest-posttest design was employed using a validated 25-item test questionnaire aligned with the Table of Specifications (TOS) with 30 students (N = 30) selected through purposive sampling. Topics discussed were the 1987 Constitution (Bill of Rights), Consumer Act (RA 7394), Anti-Graft and Corrupt Practices Act (RA 3019) and Migrant Workers Act (RA 10022). The results indicate that the mean score in the pretest was 18.27 (73.07%– Moderate/Developing) with a standard deviation (SD) of 2.07. The posttest mean score after the intervention was 23.87 (95.47%– Very High) with an SD of 1.14. The Paired Samples t-test showed a t-value of 27.082 and p-value of < 0.001 at 0.05 level of significance and thus the null hypothesis was rejected. The decrease in the standard deviation highlighted the increased consistency of understanding across the class. The results revealed that the use of Multimedia-Based Instruction is an effective strategy in improving students' knowledge and is in accordance to the goals of the DepEd MATATAG Curriculum Agenda in addressing the country's learning crisis.

Keywords: Multimedia-Based Instruction, Knowledge of Contemporary Issues, Araling Panlipunan 10, Action Research, MATATAG Curriculum.

Introduction

The awareness of the students concerning the contemporary issues is an important basis for the development of critical, analytical and deeply aware citizens of what is happening in society. In Araling Panlipunan 10, a complete understanding of concepts on human rights, consumer laws, good governance, and workers' welfare is important to help students relate theories to real-life situations. The issue is that students have difficulty acquiring adequate and higher-order knowledge of these topics in the classroom learning process.

International studies keep highlighting problems in students' academic understanding worldwide. Only 24% of students in the Philippines attained Level 2 or higher in reading proficiency in the Program for International Student Assessment (PISA) 2022, compared with an average of 74% in the OECD. The country's learning challenges were also voiced out in the report of the Second Congressional Commission on Education (EDCOM II) titled Miseducation: The Failed System of Philippine Education (2024). The data suggest the need to use strategies that can help clarify lessons and deepen students' knowledge.

In the classroom observations and pre-assessment conducted in Candelaria Institute of Technology of Cabadbaran, Inc. (CITCI) particularly in Grade 10 – St. Peter, the researchers observed students with shallow depth of knowledge and understanding in topics in Araling Panlipunan 10. The classical way of lecturing was not enough to communicate complex economic and political problems clearly and simply. But the researchers did find that students were more likely to understand, process and remember lessons when they were supported by visual and digital resources, such as videos, infographics, pictures and interactive presentations.

Although many studies have investigated the use of technology in education, there is still a lack of local action research that specifically examined the enhancement of students' knowledge of contemporary issues in Araling Panlipunan 10 using Multimedia-Based Instruction (MBI), especially in private schools such as CITCI. Thus, this action research was conducted to bridge this gap and provide concrete evidence on the effectiveness of MBI in improving the level of knowledge of the students in line with the goals of the DepEd MATATAG Curriculum.

Statement of the Problem

This study aimed to determine the effectiveness of Multimedia-Based Instruction (MBI) in enhancing the knowledge of Grade 10 – St. Peter students in Araling Panlipunan 10 at Candelaria Institute of Technology of Cabadbaran, Inc. Specifically, it sought to answer the following questions:

1. What is the level of knowledge of Grade 10 – St. Peter students on contemporary issues in Araling Panlipunan 10 before and after the use of Multimedia-Based Instruction?

2. Is there a significant difference in the level of knowledge of Grade 10 – St. Peter students before and after the implementation of Multimedia-Based Instruction?

2. Research Methodology

Participants and Sampling

This study was participated by the Grade 10 – St. Peter students of Candelaria Institute of Technology of Cabadbaran, Inc. (CITCI) in School Year 2026-2027. The section was identified through purposive sampling being the section with the lowest baseline mastery in the preliminary Araling Panlipunan assessments. The class consisted of 46 students. The data analysis was conducted on the 30 students (N = 30) who took the pretest and posttest and who were part of the entire intervention.

Research Instrument and Intervention

The researchers made a 25-item teacher-made test questionnaire based on the Table of Specifications (TOS) which included four major areas in Araling Panlipunan 10. These are: (1) 1987 Constitution / Bill of Rights (5 items), (2) Consumer Act or RA 7394 (5 items), (3) Anti-Graft and Corrupt Practices Act or RA 3019 (5 items), and (4) Migrant Workers and Overseas Filipinos Act or RA 10022 (10 items). The instrument and MBI activities were formally validated by experts in Araling Panlipunan and pilot tested for the reliability and validity of the test items.

The Multimedia-Based Instruction (MBI) intervention was conducted through short educational documentary videos, interactive PowerPoint presentations, digital infographics and situational case-analysis slides that showed the practical use of the laws.

Data Analysis

The Weighted Mean and Percentage were used to analyze the gathered data in determining the students' level of knowledge before and after the intervention. The Paired Samples t-test was used at the 0.05 level of significance to determine if there was a significant difference between the pretest and posttest results. The mean percentage score (MPS) was interpreted as: 90.00–100.00% (Very High), 80.00–89.99% (High), 70.00–79.99% (Developing / Moderate), 60.00–69.99% (Beginning), and 0.00–59.99% (Needs Improvement).

3. Results and Discussion

This chapter presents the data collected from the pretest and posttest to answer the specific problems of the study.

Level of Knowledge Before and After MBI

Table 1 presents a comparison of the students' level of knowledge in Araling Panlipunan 10 before and after the intervention.

Assessment	N	Mean Score	SD	Percentage	Interpretation
Pretest	30	18.27	2.07	73.07%	Moderate
Posttest	30	23.87	1.14	95.47%	Very High

Table 1. Students' Level of Knowledge Before and After MBI

As shown in Table 1, a significant improvement in the students' knowledge can be observed. Before MBI, the class had a mean score of 18.27 (73.07%) which was under the "Moderate" or "Developing" level. After implementation of MBI the mean score increased to 23.87 (95.47%) which was classified as "Very High. This increase of 22.40 percentage points demonstrates the positive influence of multimedia on students' mastery of the lessons.

Significant Difference in Pretest and Posttest Scores

To determine whether the increase in the students' level of knowledge was significant, a Paired Samples t-test was conducted, as presented in Table 2.

Assessment	N	Mean	SD	Mean Difference	t-value	p-value	Decision
Pretest	30	18.27	2.07			<0.001	Significant
Posttest	30	23.87	1.14	5.60	27.082		

Table 2. Test of the Significant Difference Between Pretest and Posttest Scores

The t-value obtained was 27.082 and the p-value was less than 0.001 which is less than the significance level of 0.05 as shown in Table 2. Hence, the null hypothesis was rejected. This means that there is a statistically significant difference in the level of knowledge of the students before and after the implementation of Multimedia Based Instruction.

Reflection on Results and Theoretical Anchors

The researchers reflected on the data gathered and they said that the big jump in the class mean score from 18.27 (73.07% – Moderate) in the pretest to 23.87 (95.47% – Very High) in the posttest shows that Multimedia-Based Instruction (MBI) is an effective way to develop the students' knowledge and understanding of contemporary issues. The standard deviation also went down from 2.07 to 1.14, which indicates that the gap between students' levels of knowledge was reduced, making the learning experience more equitable and inclusive for the entire class.

The combination of visual and verbal information, such as educational videos, infographics, and interactive slides, helped make abstract and complex political and economic topics such as the Constitution, Consumer Act, Anti-Graft Law, and Migrant Workers Act more concrete, understandable, and memorable to students according to Mayer's (2020) Cognitive Theory of Multimedia Learning . It implies that the use of appropriate technology in teaching Araling Panlipunan 10 is more effective in developing deeper knowledge to mold students with active social awareness based on the DepEd MATATAG Curriculum Agenda.

4. Conclusion and Recommendations

Conclusion

The findings of this study revealed that Multimedia-Based Instruction (MBI) was an effective and innovative teaching strategy that significantly improved the level of knowledge and understanding of Grade 10 – St. Peter students on the contemporary issues in Araling Panlipunan 10 . The significant increase in the mean score and the statistical significance of the Paired Samples t-test, together with the decrease in the variability of scores (SD), indicate that MBI provides all types of learners with equal opportunities to better comprehend the basic laws and social issues in the country.

Recommendations

1. For Araling Panlipunan Teachers: Sustain the implementation and enhancement of the use of MBI through the creation of localized and contextualized digital learning tools such as infographics and educational videos to sustain the high level of knowledge among students.
2. CITCI Administration: Offer ongoing training and support to teachers in the use of educational technology and multimedia material development. Ensure the maintenance of the technological infrastructure of the school.
3. For the Department of Education (DepEd): Include MBI as one of the key recommended teaching strategies in the MATATAG Curriculum to help address the learning crisis in the country.
4. For future researchers: Follow-up research to investigate long-term retention of knowledge by students and the effects of MBI on other grade levels and subject areas.

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