
EFFECTIVENESS OF THE CONTEXTUALIZED AUDIO-VIDEO MATERIALS TO THE TEST SCORES OF THE GRADE 5 PUPILS IN MATHEMATICS: BASIS FOR INSTRUCTIONAL SUPERVISION

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ABSTRACT

This study was conducted to determine the Effectiveness of contextualized Audio-Video Materials to the test scores of the Grade 5 pupils in Mathematics in San Pablo Elementary School, in Pablo, Ormoc City. The findings of the study were the basis for the proposed Instructional Supervision Plan. This study utilized Quasi-Experimental research design to determine the Effectiveness of integration of contextualized Audio-video materials in the delivery of the different learning competencies in Mathematics for the second grading period. The output of this study is to provide enhancement plan that will help the teachers in giving showcasing different learning strategies that could help learners improve their literacy skills and academic performances. The results of the test comparing pre-test and post-test scores for Grade 5 learners in mathematics reveal a statistically significant improvement in student performance. The computed t-value exceeds the critical t-value, leading to the rejection of the null hypothesis (H_0). This result suggests that the interventions or instructional strategies implemented between the two assessments had a meaningful impact on students' learning outcomes. The substantial difference in scores indicates not just a general improvement but a transformation in the learners' grasp of mathematical concepts. Moreover, the rejection of the null hypothesis suggests that the improvements are not due to random chance but rather a direct result of the educational interventions applied. This significant change emphasizes the importance of data-driven decision-making in education. By analyzing assessment outcomes, educators can identify effective practices that lead to better student performance. This approach is echoed in current educational reforms that advocate for the use of assessment data to inform teaching strategies and curricular adjustments.

Finally, the evidence of significant improvement in student performance raises important questions about the broader educational context. Are these results indicative of a systemic shift in how mathematics is taught? The success observed in this study can serve as a model for other educators and schools seeking to improve student outcomes. It encourages reflective practice among educators to explore innovative teaching methods that can lead to similar successes in different educational settings.

The results in table 3 on the significant difference between pre-test and post-test scores implies the efficacy of targeted instructional interventions in mathematics education. This result suggests that schools should prioritize the implementation of evidence-based teaching strategies that actively engage learners and cater to their diverse needs. Furthermore, ongoing professional development for teachers focusing on adaptive teaching methods and the use of formative assessments will be critical to sustaining these positive outcomes. By fostering a culture of continuous improvement and data-driven decision-making, educators can help ensure that students not only achieve high scores but also develop a deep understanding of mathematical concepts.

Keywords — Effectiveness Contextualized Audio Materials Test Scores Mathematics Grade 5

I. INTRODUCTION

Contextualizing audio-video materials to the test scores of the Grade 5 pupils in mathematics can be a valuable and effective approach in enhancing the learning experience for students. It can make learning more engaging and interactive, which is especially important for younger students. Visual aids, animations, and videos can help illustrate complex mathematical concepts in a more accessible way. Some students may grasp mathematical concepts better when they can see and hear explanations rather than relying solely on text-based instruction.

Customizing audio-visual materials to align with the curriculum and cater to the diverse learning needs of Grade 5 pupils can provide a more personalized learning experience. It allows students to learn at their own pace and revisit materials as needed.

It can be particularly helpful for students with learning disabilities or language barriers. They offer alternative ways to access content, potentially leveling the playing field for all students.

Not all educational institutions have the necessary resources, such as computers, projectors, and internet access, to effectively implement audio-visual materials. The availability of resources should be considered when adopting this approach. It is crucial to ensure that the audio-visual materials are aligned with the curriculum and learning objectives. Materials should complement classroom instruction rather than deviate from it.

Teachers may require training to effectively integrate audio-visual materials into their lessons. They should be able to select, adapt, and use these materials in ways that are aligned with the curriculum and cater to students' needs. The use of audio-visual materials in Grade 5 mathematics education can be a positive addition if done thoughtfully and with a focus on enhancing learning outcomes. It is important to consider the specific context and resources available, assess the impact on student performance, and continually refine the approach to meet the needs of the students.

Common problems that the Researcher met why Grade 5 pupils' performance is low include the following. First, is the Lack of Basic Math Skills. If students haven't mastered fundamental math concepts from previous grades, they may struggle with more advanced topics in fifth grade. It is essential to have a strong foundation in addition, subtraction, multiplication, and division. Second, is Limited Understanding of Mathematical Concepts. Some students may have difficulty grasping abstract mathematical concepts such as fractions, decimals, percentages, and geometry, especially in the higher-grade levels. If these concepts aren't adequately explained or understood, it can hinder their progress. Thus, it is seen and suggested by the proponent that contextualizing some audio-video materials to the test scores of the Grade 5 pupils in Mathematics will make the learning process effective and help the students understand deeply the concept being discussed by the teacher.

Due to limited understanding among pupils, based on the summative test given to Grade 5 learners, only 23 out of 30 of them or 76.66% has mastered the skills which for me served as a concrete proof that contextualizing the audio-video materials to the test scores of the Grade 5 pupils in mathematics are highly needed.

So, to address these issues and improve students' performance in mathematics, it is essential for teachers, parents, and schools to work collaboratively. This may involve identifying individual learning needs, providing extra support when necessary, fostering a positive learning environment, and using a variety of teaching methods to accommodate different learning styles. Additionally, helping students build confidence and a positive attitude towards mathematics.

Based on the different premises above, the study is expected to contribute to the improvement of the Grade 5 learners' performances specially in the numeracy skills considering that the learners are experiencing hardships in dealing with Mathematics subject.

This study was conducted to determine the Effectiveness of contextualized Audio-Video Materials to the test scores of the Grade 5 pupils in Mathematics in San Pablo Elementary School, in Pablo, Ormoc City. The findings of the study were the basis for the proposed Instructional Supervision Plan.

Specifically, the study sought to answer the following questions:

1. What is the pre-test score of the Grade 5 learners in Mathematics subject before the integration of the contextualized Audio-Video Materials?
2. What is the post-test score of the Grade 5 learners in Mathematics subject before the integration of the contextualized Audio-Video Materials?
3. Is there a significant difference between the pretest and posttest scores before and after the integration of contextualized Audio-Video Materials?
4. What Instructional Supervision plan can be proposed on the findings of the study?

Statement of Hypothesis:

Ho: There is no significant difference between the pretest and posttest scores before and after the integration of contextualized Audio-Video Materials.

II. METHODOLOGY

Design. This study utilized Quasi-Experimental research design to determine the Effectiveness of integration of contextualized Audio-video materials in the delivery of the different learning competencies in Mathematics for the second grading period. The output of this study is to provide enhancement plan that will help the teachers in giving showcasing different learning strategies that could help learners improve their literacy skills and academic performances as a whole. The researcher utilized Universal Sampling in identifying the respondents of the study. Quantitative analysis was used to determine the Effectiveness of integration of contextualized Audio-video materials in the delivery of the different learning competencies in Mathematics for the second grading period. The main local of the study is in San Pablo Elementary School in the division of Ormoc City. Based on the aforementioned locale, the main respondents that were chosen by the teacher-researcher were the 33 males and 61 female learners. To gather the necessary data needed in the study, the researcher utilized the Summative Test Questionnaire in Mathematics subject for Quarter 2 to get the pretest and posttest performances. Another tool to be utilized are the different kinds of audio-video materials which were validated by the different learning experts on the aforementioned subject in a given period of time. The proposed instructional supervisory Plan was taken based on the findings of the study.

Sampling. There were 94 total number of respondents identified in the study comprising 33 male and 61 female learners. The actual conduct of the study and during the data-gathering process in the school where the study was conducted served as the primary methods of reaching these respondents. Another way of contacting them is through the application of technology, particularly cell phones.

Research Procedure. The researcher prepared the research design which is the descriptive-correlational research design and tools to gauge the Effectiveness of integration of contextualized Audio-video materials in the delivery of the different learning competencies in Mathematics for the second grading period. The researcher formulated the following steps or procedures to be guided during the gathering of data. The steps are the following:

The researcher sent a letter to the Schools Division Superintendent of Ormoc City Division for approval in conducting the study to the said school after which, the approved letter coming from the Schools Division Office was given to the School Principal of San Pablo Elementary School for her awareness.

The researcher has distributed survey questionnaires to the School Head that were answered by the learners. After one month, the questionnaires were retrieved, consolidated and subjected to statistical treatment using Pearson's-r. Data were collated and submitted to appropriate statistical treatment.

The results were analyzed and interpreted in order to find out if there were significant differences between the contextualized Audio-video materials in the delivery of the different learning competencies in Mathematics for the second grading period. The approval and recommendation from the Office of the Schools Division Superintendent, as well as to the Assistant Schools Division Superintendent in Ormoc City Division being the Chairman of the Schools Division Research Committee through the Senior Education Program Specialist in Planning and Research. After the Approval of the Schools Division Research Committee, the Approved or endorsement letter from the body together with the approved letter of intent were forwarded to the Office of the Public School District Supervisor as well as to the office of the school's principal in order to get full support on the conduct of the study as well as to get an approval from their end. The proposed title and design were submitted to the School Division Office for approval. Upon approval, the Division released an endorsement to the District Office where the school is located. When the research was approved by the Schools Division Office and District Office, the researcher began the process of data gathering. Orientation of the participants was done. Answering and retrieval of the research tools followed. Tallying of results and treatment of data. Analysis and Interpretation of Data. Making of Proposed Instructional Supervisory Plan.

Ethical Issues. The right to conduct the study was strictly adhered through the approval of the school principal and approval of the Superintendent of the Division. Orientation of the respondents both the School Head, Teachers, and learners were also done.

Treatment of Data. The following statistical formulas were used in this study:

The quantitative responses were tallied and tabulated. The data was treated statistically using the following statistical tool.

The Simple Percentage and weighted mean was employed to determine the extent of Effectiveness of integration of contextualized Audio-video materials in the delivery of the different learning competencies in Mathematics for the second grading period

Pearson r Moment Correlation Coefficient was used to determine the significant relationship between the Effectiveness of integration of contextualized Audio-video materials in the delivery of the different learning competencies in Mathematics for the second grading period.

III. RESULTS AND DISCUSSION

TABLE I
PRE-TEST PERFORMANCE OF GRADE 5 LEARNERS IN MATH

Score Range	Description	PRETEST	
		Frequency	%
41-50	Excellent	0	0
31-40	Very Good	16	16
21-30	Good	81	84
11-20	Fair	0	0
1-10	Poor	0	13
Total		97	100
Weighted Mean		28.44	Good

Table 1 presents the pre-test performance of Grade 5 learners in Mathematics revealed a concerning distribution of scores, highlighting significant areas for improvement. As shown in Table 1, the majority of students scored within the “Good” range (21-30), with a frequency of 81, translating to 84% of the cohort. However, it is essential to note that no students achieved an “Excellent” or “Very Good” rating, indicating a potential gap in the mastery of foundational math skills. The weighted mean score of 28.44 further underscores this concern, categorizing overall performance as “Good” but revealing that many students are on the lower end of this scale.

The absence of students scoring in the “Excellent” category is particularly striking. This lack of high achievers could suggest that the instructional methods employed in teaching mathematics may not be sufficiently challenging or engaging for the learners. Moreover, the data indicates that a significant portion of the students, 16%, fell into the “Very Good” category, suggesting that while there is some proficiency among learners, a substantial majority still struggle with higher-order mathematical concepts. The presence of 84% of students in the “Good” range implies that while basic skills might be present, there is a need for targeted interventions to elevate their understanding and application of mathematics.

The absence of students in the “Fair” and “Poor” categories may suggest that most learners possess at least some foundational skills. However, it also raises questions about the effectiveness of current teaching strategies. The lack of extreme low performers might create a false sense of security regarding overall student achievement, masking the deeper issues within the instructional framework. Educational researchers advocate for differentiated instruction tailored to meet the varied needs of learners to address such discrepancies effectively.

The findings from the pre-test imply that there is a pressing need for targeted instructional strategies aimed at enhancing students' mathematical competencies. The absence of students in the top performance categories suggests that the existing curriculum may not adequately support the development of higher-level math skills. To foster improvement, educators could consider implementing more engaging and challenging content, alongside differentiated teaching methods. Furthermore, the establishment of targeted intervention programs for those struggling could prove beneficial in elevating the overall proficiency of the class. By addressing these gaps, schools can better prepare students for future mathematical challenges and contribute to a more robust educational outcome.

The analysis of pre-test performance of Grade 5 learners in mathematics reveals a concerning trend, with a weighted mean of 28.44 categorized as “Good.” While the majority of students scored in the “Good” range, the lack of high achievers points to potential shortcomings in instructional methods.

TABLE 2
POST-TEST PERFORMANCE OF GRADE 5 LEARNERS IN MATH

Score Range	Description	POST TEST	
		Frequency	%
41-50	Excellent	93	96
31-40	Very Good	4	4
21-30	Good	0	0
11-20	Fair	0	0
1-10	Poor	0	13
Total		97	100
Weighted Mean		44.21	Excellent

The post-test performance of Grade 5 learners in Mathematics shows a remarkable improvement compared to their pre-test results. As detailed in Table 2, a striking 96% of students achieved scores in the “Excellent” category, with only

4% falling into the “Very Good” range. This dramatic shift in performance, reflected in the weighted mean score of 44.21, indicates a significant advancement in students' understanding and application of mathematical concepts. Such a change suggests that the interventions or teaching strategies employed between the pre-test and post-test phases were highly effective.

The absence of students scoring in the "Good," "Fair," or "Poor" categories reinforces the notion that the instructional methods utilized post-intervention successfully engaged learners and enhanced their performance. The overwhelming majority achieving “Excellent” status highlights not only the effectiveness of the teaching strategies but also suggests that students are now grasping advanced mathematical concepts that may have previously eluded them. This finding aligns with educational research by Hattie (2014), which emphasizes the impact of targeted feedback and clear learning objectives on student performance. Hattie argues that when learners receive immediate and constructive feedback, they are more likely to improve their understanding and skills, leading to higher achievement levels. Moreover, the transition from a predominantly “Good” performance in the pre-test to an “Excellent” performance in the post-test demonstrates the potential for substantial growth when effective teaching methods are employed. This aligns with current educational theories that advocate for active learning environments where students are encouraged to engage deeply with the material. The results suggest that the implementation of such strategies has created an atmosphere conducive to learning, resulting in improved academic outcomes.

The findings from the post-test performance implies that the substantial improvement in students' scores highlights the importance of implementing effective instructional strategies that promote engagement and understanding. Moving forward, educators should prioritize ongoing assessment and feedback to sustain high levels of student achievement. Moreover, professional development for teachers focusing on innovative teaching methods could further enhance instructional effectiveness and ensure that all students continue to excel in mathematics.

TABLE 3
TEST OF DIFFERENCE BETWEEN THE SCORES IN THE PRE-TEST AND POST-TEST OF GRADE 5 LEARNERS IN MATH

Aspects	Test Scores		Computed T	Critical T	Decision	Interpretation
	GRADE 5 Learners in Math	Pre	28.44	2.371	0.932	Reject H_0
Post		44.21				

The results of the test comparing pre-test and post-test scores for Grade 5 learners in mathematics reveal a statistically significant improvement in student performance. As summarized in Table 3, the pre-test mean score of 28.44 markedly increased to a post-test mean of 44.21. The computed t-value of 2.371 exceeds the critical t-value of 0.932, leading to the rejection of the null hypothesis (H_0). This result suggests that the interventions or instructional strategies implemented between the two assessments had a meaningful impact on student learning outcomes.

The substantial difference in scores indicates not just a general improvement but a transformation in the learners' grasp of mathematical concepts. Moreover, the rejection of the null hypothesis suggests that the improvements are not due to random chance but rather a direct result of the educational interventions applied. This significant change emphasizes the importance of data-driven decision-making in education. By analyzing assessment outcomes, educators can identify effective practices that lead to better student performance. This approach is echoed in current educational reforms that advocate for the use of assessment data to inform teaching strategies and curricular adjustments.

Finally, the evidence of significant improvement in student performance raises important questions about the broader educational context. Are these results indicative of a systemic shift in how mathematics is taught? The success observed in this study can serve as a model for other educators and schools seeking to improve student outcomes. It encourages reflective practice among educators to explore innovative teaching methods that can lead to similar successes in different educational settings.

The results in table 3 on the significant difference between pre-test and post-test scores implies the efficacy of targeted instructional interventions in mathematics education. This result suggests that schools should prioritize the implementation of evidence-based teaching strategies that actively engage learners and cater to their diverse needs. Furthermore, ongoing professional development for teachers focusing on adaptive teaching methods and the use of formative assessments will be critical to sustaining these positive outcomes. By fostering a culture of continuous improvement and data-driven decision-making, educators can help ensure that students not only achieve high scores but also develop a deep understanding of mathematical concepts.

IV. CONCLUSIONS

Based on the results of the study, the significant improvement in scores indicates a profound effect on students' comprehension of mathematical ideas, confirming that these improvements are due to focused treatments rather than chance. This important discovery highlights the need for data-driven decision-making in education and motivates teachers to examine assessment results in order to improve their methods. Moreover, the effectiveness of these interventions prompts educators to investigate other approaches that can duplicate these beneficial outcomes, raising significant questions about possible changes in mathematics teaching.

V. RECOMMENDATIONS

1. The Instructional Supervisory plan should be implemented to all school heads that could improve the performance of teachers and learners.
2. To improve student engagement and mathematical comprehension, teachers should use contextualized audio-video resources in their lesson plans. Workshops for professional development can be arranged to teach teachers how to successfully incorporate these multimedia materials into their lesson plans.
3. School administrators are urged to facilitate the incorporation of contextualized audio-visual materials by giving instructors the tools and training they need. Teachers should be encouraged to try these resources out and share their results with the school community in order to promote an innovative culture.
4. To emphasize the advantages of contextualized audio-video resources in mathematics teaching, PSDS should lead workshops and training sessions for educators in their district. Additionally, they can create policies and procedures that support schools in successfully implementing these resources. To assess how these tools affect students' learning and enable data-driven modifications to teach methods, regular monitoring and feedback should be put in place.
5. Promoting contextualized audio-visual resources as an essential part of the math curriculum should be EPS's top priority. They can push for the distribution of funds so that educational institutions have access to top-notch multimedia resources. Furthermore, EPS can set up inter-school forums where teachers can exchange effective strategies and results related to these resources.
6. By using contextualized audio-video resources to reinforce mathematical ideas at home, parents are encouraged to get involved in their children's education. By talking about the information in these resources and investigating similar subjects with their kids, they may help them learn. Additionally, parents ought to keep lines of

communication open with teachers regarding their kids' development and offer input on how these resources are affecting learning.

7. The Chief Education Supervisor should advocate for district-wide policies that promote the integration of contextualized audio-video materials in mathematics education. This includes providing funding for schools to access these resources and ensuring that teachers receive adequate training on their use.
8. Future researchers should look into how contextualized audio-video resources affect students' learning outcomes over the long run. Research might examine how these resources affect students' motivation, engagement, and retention of mathematical ideas.

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