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# JOURNAL

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## **Effect of Multimedia-Assisted Instruction and Visual Static Materials on Pupils' Attitude, Engagement and Understanding in English Classes: Bases for an Enhanced Curriculum**

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**Abstract:** This study examined the influence of multimedia-assisted instruction and visual static materials on pupil's attitude, engagement and understanding in English. Thirty-five (35) Grade 4 students of Sto. Niño Central Elementary School were the respondents of this study that was conducted during the first quarter of the School Year 2018-2019. This study utilized a descriptive-correlational research design. Data on student's attitude regarding their own engagement with the use of multimedia-assisted instruction were collected using the Learners Attitude Survey, while the learners' level of engagement in different learning episodes were determined through classroom observations conducted by the School Head and District Supervisor. Findings of the study revealed that the use of multimedia-assisted instruction had a significant effect on the pupils' levels of engagement in all learning episodes. Results also indicate that the use of multimedia-assisted instruction has a significant effect on the pupils' understanding in English. Further research and enhancement of curriculum using multimedia-assisted instruction for teachers and administrators are recommended.

### **INTRODUCTION**

The increased use of new technology to represent scientific activity, students' acquisition of knowledge, now poses challenges for effective classroom instructional practices. The teacher has to utilize instructional materials and tools that will enhance students understanding that are consistent with current general principles of effective pedagogy for learning. These principles emphasize the importance of catering for students' individual learning needs, preferences and interest and drawing effectively on student's abilities in acquiring new knowledge that can solve logistic problems (Marlene Scardamalia & Carl Bereiter, 2009).

Technology-based instruction represents a new recent pedagogical paradigm that is rooted in the realization that younger generations are much more comfortable with, and excited about, new technologies. The rapid technological advancement over the past decade has fueled an enormous demand for the integration of modern networking, informational and computational tools with classical pedagogical instruments. Consequently, teaching with technology typically involves utilizing a variety of information and technology, and multimedia resources for online learning engagement, experimental, critical thinking, and assessment (Dinov & Sanche, 2006).

The researcher, as an educator for years, has observed a dramatic change in the learning styles of this generation considered as the 21<sup>st</sup> century millennial learners. The millennial learners operate on short attention spans, demand immediate gratification, and process information in short spurts; they are also keen on multi-tasking and likely to dive into a project with fairly successful outcomes rather than spend time reading instructions. The traditional chalk and board techniques, which was proven effective and efficient only for attentive and motivated learners evidently showed less effective to the modern learners. The formats cannot hold the attention of the learners therefore; educators must integrate more interactive exercises in order to achieve satisfactory learning outcomes that include critical thinking, problem solving and communication skills (American Journal of Educational Studies, 2013).

Learners nowadays are exposed to a more complex, global, and diverse technological factors that make the teaching and learning process more challenging. Teaching pedagogy evolves and adapts to these types of learners to address the need.

Creating effective learning environments with technology remains a challenge for teachers. Despite the tremendous push for educators to integrate technology into their classrooms, many have yet to do so and struggle to find consistent success with technology-based instruction (Groff, 2008).

The Department of Education launched the computerization program to address the demands and challenges in delivering quality instruction to 21st century learners. The said program is supported and integrated in the Teachers Individual Performance Commitment and Review Form (IPCRF) filled out by teachers during the end of the year. Each teacher commits to facilitate engaging lessons using ICT in every quarter. Likewise, inclusive in the IPCRF is the commitment to prepare instructional materials that will improve student's engagement, conceptual understanding and retention. These objectives require diverse or blended strategies of technology integration and visual materials.

The research was conducted to determine the effect of the traditional static visual materials and the use of multimedia-assisted instruction in the teaching and learning process. The study specifically focused on the English 4 classes, specifically on the attitude of the learner, engagement and conceptual understanding of the subject.

The findings of this study hoped to provide insights on the effect of the school-based training program on technology integration and its role in enhancing teachers' pedagogies and will serve as bases in improving the curriculum for students.

## **STATEMENT OF THE PROBLEM**

This study aimed to determine the relationship between the use of multimedia-assisted instruction and static visual materials on the pupils' attitude, engagement and understanding in English.

Specifically, it sought to answer the following sub-problems:

1. What is the pupils' attitude towards learning using multimedia-assisted instruction?
2. What is the pupils' level of engagement using the multimedia-assisted instruction as compared to visual static materials?
3. What is the pupils' level of understanding in English using:
  - a. static visual materials; and

- b. multimedia-assisted instruction?
4. Does the use of multimedia-assisted instruction have a significant effect on the pupils' level of engagement?
5. Does the use of multimedia-assisted instruction have a significant effect on pupils' understanding in English?

## **HYPOTHESES**

Ho1: The use of multimedia-assisted instruction has no significant effect on the pupils' level of engagement.

Ho2: The use of multimedia-assisted instruction has no significant effect on the learners' understanding in English.

## **DEFINITION OF TERMS**

Multimedia-Assisted Instruction refers to frequent use of printed, visual, audio, video and similar tools in the learning environment in a harmonious manner.

Visual Static Materials refers to printed materials used by the teacher as the primary source of instruction.

## **REVIEW OF RELATED LITERATURE AND STUDIES**

This literature review has examined the effects of technology integration in particular the use of multimedia presentations on students' attitude toward learning as manifested by their engagement in classroom interactions.

### **Enhanced Pedagogies**

The Benton Foundation Communications Policy Program (2002) also emphasized that five factors must be in place for technologies to support real gains in educational outcomes: (a) technology use shall be anchored in solid educational objectives; (b) sustained and intensive professional development for teachers; (c) adequate technology resources in the schools; (d) recognition that real change and lasting results take time; and (e) evaluation that enables school leaders and teachers to determine whether they are realizing their goals and to help them adjust their practice to better meet those goals.

Waldrup, Prain, and Carolan (2006) asserted that effective pedagogy in English must entail engaging students' interest and enhancing their perception of real-world applications in their learning.

### **Technology Integration and Multimedia Presentations**

Noeth and Volkov (2004) contented that technology should be a tool to help educators meet the educational needs of all children. Technology can serve as an enabler in teaching and learning to stimulate, visualize, and interact with scientific structures, processes, and models.

In addition, Garo (2011) set guidelines to follow in preparing multimodal presentations: (a) avoid too much text, (b) convert some texts to tables, bullets, and flowchart to enhance comprehension, (c) ensure readability, and (d) use labels frequently.

### **Multimedia-Assisted Instruction and Learners Attitude and Engagement**

Morgan (2008) reported that the use of multimodal presentations stimulates students' interest and attention leading to increased motivation and engagement during lessons. Pupils engagement, as evidenced by behavior during lessons, is an essential component of learning.

Similarly, to Dunleavy and Milton (2010) multimedia and technology have proven helpful in engaging students in learning, in exploring ways to present their learning, and in helping students control their learning.

### **Influence of Multimedia Presentations on Learners Understanding**

In a study of teacher perceptions in the use of multimedia presentations to support pupils learning in English, Waldrip, Prain, and Carolan (2006) reported that the teachers considered this approach to promote deeper learning. On the other hand, Noeth and Volkov (2004) asserted that the best way to enhance learning depends on the levels of planning, structure, preparation, and evaluation of the potential impact that technology will have on teaching, learning, and achievement. Experts believe that increasing capacity depends on enhancing the technology skills of teachers and administrators. Similarly, Wilson, (2002) envisions technology as offering endless possibilities to enhance educational experiences, expand academic opportunities, and develop critical employment skills. Furthermore, Fouts (2000) as cited in Noeth and Volkov (2004) reported general concurrence that: (a) when combined with traditional instruction, the use of computers can increase student learning; (b) the integration of computers with traditional instruction produces higher academic achievement in a variety of subject areas than does traditional instruction alone; (c) students learn more quickly and with greater retention when learning with the aid of computers; and (d) students like learning with computers and their attitudes towards learning and school are positively affected by computer use.

Indeed, research review shows that technology integration, in particular multimedia presentations, have great potential as a tool to enhance pedagogical practices in the classroom and ultimately improve student achievement. However, simply assuming that using this or any other technological tool can automatically enhance student achievement would be a mistake. As is the case with all powerful tools, teachers must use technology thoughtfully, that is in accordance with what we know about good classroom practices.

## **CONCEPTUAL FRAMEWORK OF THE STUDY**

The concepts of social cognitivism and constructivism were the umbrella paradigms of importance to this study. Vygotskys (1978) as cited in Morgan (2008) posited that social interactions are fundamental to learning. Vygotskys stated that instruction is most efficient when pupils engage in activities within a supportive learning environment and when they receive appropriate guidance that is mediated by tools like computers and audiovisual materials.

The constructivist approach to learning theorizes that children construct new meaning and understanding from their prior experiences and new information through exploration, inquiry, and learning experiences inside the classroom. The teacher’s role, from the constructivism point of view, is that of a facilitator who assists learners in constructing knowledge through dialogue, questioning, guided learning activities, and reflection. Constructivism, then, places the focus on the learner who actively participates in the learning process by engaging in meaningful experiences (Morgan, 2008).

Further, this study was also framed from the current theoretical accounts on the nature of science discourse like learning as representation and use of effective pedagogical conditions to promote student learning. These perspectives are viewed as compatible in that they link theories of Science as a subject to how Science can be learned effectively and other affecting learning outcomes.

This study was also guided by current accounts of effective classroom pedagogy that aims to engage learners more than a traditional focus on restricted forms of representing scientific ideas evident in text books and usual classroom practices. This orientation is also consistent with recent research findings of Tytler and Waldrip (2002) that students learn most effectively in Science, and engage more with the subject, where they are challenged to develop meaningful understandings, where individual learning needs and preferences are catered for, and where the nature of Science is represented in its social, personal and technological dimensions.

The input of the study is the delivery of enhanced pedagogies as a result of using multimodal presentations. Then the expected outcomes are improved learners’ attitude, engagement and understanding. It is believed that facilitating learning through enhanced pedagogies will lead to learners’ high engagement in class activities which in turn will produce better conceptual understanding.

The conceptual framework of the study is illustrated in Figure 1.

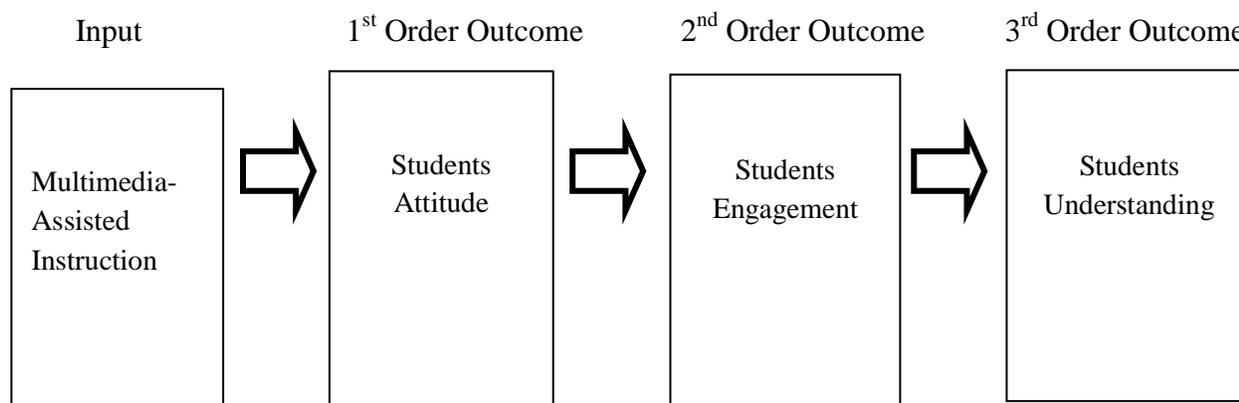


Figure 1. Conceptual Framework of the Study

**METHODOLOGY**

**Research Design**

This study utilized a descriptive-correlational research design. Survey questionnaires were administered to determine the pupils’ perceptions toward technology integration in the teaching and

learning process. Learners' views were ascertained through classroom observations conducted by the Master Teacher, School Head and District Supervisor to determine if indeed pupils' responses correspond to their level of engagement during the different episodes of learning. Learners understanding were determined using the assessment result during the sessions being observed.

This study used the formative evaluation considering that the data were collected during the process of implementing evaluation interventions. This aimed to have necessary adjustment and enhancement in strategies along the way. A follow-up study before the end of the school year will be done in a form of summative evaluation to determine the over-all effect of this study and reflect necessary changes in curriculum planning and implementation. As defined by Noeth and Volkov (2004) formative evaluations (during the course of the program) track the implementation of the technology while summative evaluations (at the end of the program) examine the impact of the technology application.

### **Locale of the Study**

This study was conducted at Sto. Niño Central Elementary School, Sto. Niño, South Cotabato, the school where the research proponent is currently teaching.

### **Respondents of the Study**

The respondents of the study were sixteen (16) males and 24 (24) females, a total of thirty five (35) Grade 4 pupils of Sto. Niño Central Elementary School, School Year 2018-2019. The same group of learners was involved in the use of static visual materials and use of multimedia presentations.

### **Data Gathering Procedure**

The research proponent sought permission to conduct research from the Office of the Principal. Upon approval, the researcher conducted the research through the assistance of the Master Teacher, School Principal and District Supervisor as classroom observers.

### **Data Gathering Instrument**

This study utilized varied instruments to gather the data needed. The Students' Attitude Survey was used to determine the students' attitude toward the utilization of multimedia presentations. The level of engagement in every learning episode was determined using the Observation Instrument. Observations or sweeps was done by the school Principal in each of the learning episode. Both the Students' Attitude Survey and Observation Instrument were adapted from Morgan (2008). While the students' conceptual understanding was measured using the quiz administered by the teacher at the end of the sessions being observed.

## **RESULTS AND DISCUSSIONS**

Table 1 presents the mean level of pupils' attitude towards utilization of technology in particular the multimedia-assisted instruction.

**Table 1**  
Pupils' Attitude towards Multimedia-Assisted Instruction

Indicators	Mean	Description
1. I enjoy classroom activities using Multimedia.	4.5	Most of the Time
2. I can interact better on the lesson when multimedia is used.	4.7	Most of the Time
3. I know that the multimedia gives me more opportunities to learn new things.	4.7	Most of the Time
4. I can comprehend the lesson better when multimedia is used	4.8	Most of the Time
5. Learning is more enjoyable when multimedia is used	4.8	Most of the Time
6. Skills were developed using the multimedia.	4.7	Most of the Time
7. I can learn more in multimedia than books.	4.9	Most of the Time
8. I pay attention in class when multimedia is used.	4.6	Most of the Time
9. I believe that it is important for me to be able to used technologies like computers.	4.8	Most of the Time
10. I want to manipulate computers whenever I can.	4.8	Most of the Time
<b>Overall Mean</b>	<b>4.75</b>	<b>Most of the Time</b>

The data revealed that the over-all mean of pupils' attitude towards utilization of multimedia presentations in facilitating learning is 4.75 described as *Most of the Time* which means that learners were highly engaged when multimedia presentations was used by the teachers in facilitating learning. The result indicates that the learners have consistent perception with regards to the positive influence of the utilization of multimedia-assisted instruction in classrooms.

**Table 2**

Pupils' Level of Engagement Using Static Visual Materials and Multimedia-Assisted Instruction

	Visual Static Materials		Multimedia-Assisted Instruction	
	Percentage	Interpretation	Percentage	Interpretation
Motivation Presentation of the Lesson	78.12%	High	87.50%	Very High
Activity	75.00%	High	93.75%	Very High
Analysis	84.38%	Very High	96.88%	Very High
Abstraction	75.00%	High	90.63%	Very High
Application	68.75%	High	84.38%	Very High
<b>Over-all Mean</b>	<b>75.52%</b>	<b>High</b>	<b>89.59%</b>	<b>Very High</b>

As shown in Table 2, the over-all mean percentage of student engagement using the static visual materials is 75.52% which means that the students are highly engaged in general. It can be seen that the

students demonstrated their highest level of engagement during the activity having a mean percentage of 84.38%. The other learning episodes only marked high engagement.

On the other hand, the same group of learners manifested 89.59% as an over-all mean percentage of pupils' engagement when multimedia-assisted instruction was used.

This implies that in totality of the learning episodes has demonstrated very high engagement. It is very noticeable, that all throughout the duration of the class, the students demonstrated *Very High Engagement*. This result supports the findings of Morgan (2008) stating that the use of multimedia presentations stimulates student's interest and attention leading to increased motivation and engagement during lessons.

**Table 3**

Pupils' Level of Understanding in English

Approaches	Mean Score	%Equivalent	Difference
Static Visual Materials	12	60.00%	20.00%
Multimedia-Assisted Instruction	16	80.00%	

The table shows that the mean score of students using static visual materials is 12 with a percentage equivalent of 60.00% and the mean score of students when multimedia-assisted instruction was used is 16.00 with a percentage equivalent of 80.00%. There is a difference of 20.00%. This is an indication that students got better understanding of the concepts taught when multimedia presentations were used. This finding is parallel to the report of Fouts (2000) where students learn more quickly and with greater retention when learning with the aid of computers.

**Table 4**

Relationship between Multimedia-Assisted Instruction and Learners' Level of Engagement

Approaches	Mean %	SD	t-computed	Interpretation
Static Visual Materials	75.52	4.92		
Multimedia-Assisted Instruction	89.59	4.66	5.09	Significant

The mean percentage of 75.52% provides a preview of baseline of students' at task behavior during the classroom observation using the static visual materials while the mean percentage of 89.59% shows the effect of using multimedia presentations on pupils behavior.

The t-test analysis shows that the t-computed value of 5.09 at 0.05 level of significance exceeds the t tabular value of 2.571, thus the null hypothesis stating that the use of multimedia-assisted instruction has no significant effect on the pupils' level of engagement is rejected. This implies that the use of multimedia-assisted instruction significantly influence students level of engagement. As indicated in the previous table there is a consistent higher level of engagement in all learning episodes when multimedia presentations were used.

This result confirms Dunleavy and Milton (2010) who reported that multimedia and technology have proven helpful in engaging students in learning.

**Table 5**  
Effect of Multimedia-Assisted Instruction on Students Understanding

Approaches	Mean Score	SD	t-compound	Interpretation
Static Visual Materials	12	2.1	7.3778	Significant
Multimedia-Assisted Instruction	16	2.20		

It can be gleaned in table 5 that the t-computed value of 7.3778 is higher than the t-tabular value of 2.042 at 0.5 level of significance. This means that the null hypothesis stating that the use of multimedia-assisted instruction has no significant effect on the pupils' understanding in English is rejected. This implies that using multimedia presentations has a significant effect on students' understanding. This result corroborates the findings of Waldrip, Prain and Carolan (2006) that the use of multimodal presentations supports student learning in English and promote deeper learning.

## CONCLUSIONS AND RECOMMENDATIONS

### Conclusions

Based on the findings of the study, it is concluded that using multimedia-assisted instructions have improved the pupils' attitude towards learning. It can also be inferred that the use of multimedia presentations has significant influence on students' engagement. Finally, the use of multimedia-assisted instruction has a significant effect on students understanding and produced better learning of English concepts among Grade 4 pupils.

### Recommendations

Considering the different findings in this study, the following recommendations are hereby formulated.

1. Multimedia-assisted instruction may be used in all subject areas and grade levels.
2. Utilization of multimedia shall be integrated with traditional instruction then its effect shall also be evaluated.
3. Future researches to be conducted shall evaluate the effect of multimedia presentations across gender, ethnicity and different cognitive levels of learners.
4. Administrators and teachers shall receive tailored and continuing education about how to best integrate technology into their curriculum, and shall be evaluated on their proficiency in doing so.

## REFERENCES

### Books

Garó, C. (2011). Theories and Principles of Educational Technology, Mandaluyong City: National Bookstore

### Journals

Tytler, R. & Waldrip, B.G. (2002). Improving primary science: schools experience of change, investigating, Vol. 18, pp23-26.

Waldrip, Prain and Carolan (2006). Learning Junior Secondary Science through Multi-modal Representations, Electronic Journal of Science Education, Vol.11, No. 1.

#### Internet

Benton Foundation Communications Policy Program (2002). Great expectations: Leveraging Americas investment in educational technology. Washington, DC: Benton Foundation Retrieved September 21, 2015 from <http://www.benton.org/publibrary/e-rate/greatchexpectations.pdf>

Dunleavy, J. AND Milton, P. (2010). The Search for Competence in the 21st Century Quest Journal, Leading Edge Learning. Retrieved September 24, 2015 from <http://www.leadingedgelearning.ca>.

Noeth and Volkov (2004). Evaluating the effectiveness of Technology in Our Schools, ACT Policy Report Retrieved September 21, 2015 from <https://www.act.org>.

Wilson, J. I. (2002) . A visit to the Springdale school system in 2012. In visions 2020: Transforming education and training through advanced technologies, Washington, DC: U.s. Department of Commerce. Retrieved from <http://www.technology.gov/reports/techPolicy2020Visions.pdf>. on September 21, 2015.

#### Dissertation Published On-line

Morgan, L.G. (2008). Improving Student Engagement : Use of the Interactive Whiteboard as an Instructional Tool to Improve Engagement and Behavior in the Junior High School Classrooms. Retrieved September 21, 2015, from <http://www.digitalcommons.liberty.edu>