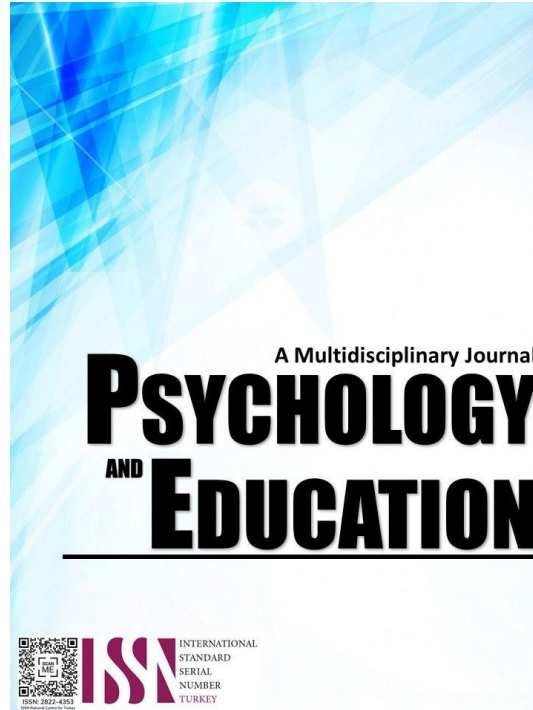


# MULTIMEDIA-BASED INSTRUCTION IN TEACHING ENGLISH SUBJECT IN RELEVANCE TO LEARNERS' PERFORMANCE



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## Multimedia-Based Instruction in Teaching the English Subject in Relevance to Learners' Performance

Riena Grace R. Caballes\*

For affiliations and correspondence, see the last page.

### Abstract

This study was undertaken to assess the extent of multimedia-based instruction in English utilized by teachers in Binubongan Elementary School; (2) determine the pupils' performance in English in a multimedia-based learning environment when categorized as outstanding, very satisfactory, satisfactory, fairly acceptable, and did not meet expectation; and (3) test the relationship between the pupils' performance in English and the extent of multimedia-based instruction of teachers in Binubongan Elementary School. This study employed a descriptive research design wherein the method included a quantitative approach in collecting numerical data through a survey questionnaire. Further, the performance of the pupils is significantly associated with the integration of technology in teaching English. Henceforth, the students who are more properly engaged in technology are most likely have better chances of learning in English. English teachers are advised to engage in professional development that would promote their pedagogical skills in advanced technological teaching of the English subject.

**Keywords:** *multimedia-based instruction, learners' performance, english subject, teachers, advanced technological teaching*

### Introduction

The integration of technology in education makes teaching and learning more lively and meaningful to public school learners, especially in science, which includes abstract phenomena and concepts. The use of multimedia provides a more effective science teaching and learning environment.

The framework of this study is bounded on the context of legal and philosophical underpinnings pursuant to section 10 of Article XIV of the Philippine Constitution and Sections 1 and 2 of Republic Act 10844 which institutionalizes information and technology in the Philippines and mandates that "Science and technology is essential for national development and progress; the state shall give priority to research and development, invention, innovation, and their utilization; and the integration and use of information technology resources in public elementary and secondary schools in the Philippines for improvement in teaching and learning processes".

The difficulty in teaching and learning more abstract and theoretical concepts in English has become easier through the use of computer-assisted instruction via multimedia teaching tools having different design structures to provide a more effective learning environment (Barak, 2020).

The use of multimedia is beneficial to learners because it has multiple modes that effectively match the learners' various intelligence preferences (Gardner, 2019). Therefore, videos, video clips, movies, and television can be adopted in the classroom as a facet of instruction, together with other instructional technologies, to enhance and facilitate learning.

However, the utilization of multimedia resources as a new pedagogical trend is very limited in public schools. There are teachers in English who do not adopt the technology because they are more comfortable with their teaching methods. In contrast, others claim that the resources are not available for teachers' use.

It is based on the aforementioned circumstance that the researcher is motivated to conduct a study to investigate the use of multimedia resources in English classes in the public school and find out its effect on the academic performance of grade school pupils.

### Research Questions

The study aimed to assess the pupils' performance in English in a multimedia-based learning environment in Binubongan Elementary School for the School Year 2024 - 2025. Specifically, the study sought to answer the following questions:

1. What is the multimedia-based instruction in English utilized by teachers in Binubongan Elementary School?
2. What is the pupils' performance in English in a multimedia-based learning environment when they are categorized as:
  - 1.1. outstanding;
  - 1.2. very satisfactory;
  - 1.3. satisfactory;
  - 1.4. fairly satisfactory;
  - 1.5. did not meet expectations?
3. Is there a significant relationship between the pupils' performance in Science and the extent of multimedia-based instruction of teachers in Binubongan Elementary School?

## Literature Review

### *Multimedia - Based Instruction*

Subsequently, Department Order Number 62, series of 2009, instructs that the different multimedia materials distributed in schools are composed of assorted text, presentations about a particular topic, and other associated illustrations in various information formats, some of which are interactive, whose objective is to enhance learning theories. DM 075 s. 2016 also supports this development by implementing the DEPED Computerization Program, in which schools are given packages that consist of Multimedia equipment to be used in every school.

Today's generation of teaching-learning strategies is evolving to fit the 21st-century learners' learning style. As teachers, our topmost goal is to enhance our teaching and learning methodologies. Appealing interventions to our learners are the most effective tool that we can use to improve the quality of education. Below are local studies and research-based investigations that are behind the studies of multimedia learning integration in teaching.

One of the teaching technologies included in the teaching and learning process is a series of multimedia applications developed due to advances in information technologies and cognitive theories. Considering the technology available today, teachers have the chance to make use of it. Technology invites learners to be more actively engaged and have a wide, lively variation of knowledge absorption.

In the study of Ontoy (2021), it was observed that in a public school setting, pupils had different academic scores and less attention given to the lessons when the methods of teaching are not appropriate. It was further observed that when the teachers discuss science topics with the textbooks as the only source of ideas and explanation, lower scores are obtained.

Science teaching, according to Sunga et al. (2019), has been part of the curricular programs in basic and tertiary education. It is an important learning area to prepare learners to succeed in today's global environment, which will be overwhelmingly formed by science and technology.

Manalansan et al. (2020) pointed out that English teachers must develop the passion and love for teaching and employ different approaches and strategies in teaching science concepts, and develop as well as master the most essential competencies in the learning area.

In a similar investigation, Kaptan et al. (2021) revealed that the problem of students' engagement in English class activities and learning performance can be addressed through the utilization of appropriate learning approaches, such as evidence-based learning. This approach allows students to develop higher-order and critical thinking skills.

However, Tan (2020) argued that teachers need to upgrade their professional competence because one of the predictor variables that contributes to the decline in students' performance in English is the inability of the teachers to utilize or employ varied teaching approaches and strategies receptive to the learner's learning needs and develop their critical thinking skills.

Subsequently, Baterna et al. (2020) pointed out that the use of evidence-based teaching-learning strategies allows students to think and develop retention of concepts, reasoning, and analytical skills. It was also highlighted that English education in the Philippines lags compared to other Asian countries because international and local studies revealed that Filipino students have low retention of concepts and inadequate reasoning and analytical skills. Additionally, it was reported that a large number of Grade 10 pupils cannot apply perceptions to real-life problem-solving scenarios nor create an inquiry to explain a problem, and their performance in international and national achievement tests is consistently low.

Several studies have confirmed that English learning remains confronted with numerous challenges, especially in students' performance. Ambag (2018) stated that English faces a scarcity of instructional resources, training of educators, and disapproval of pioneering science teaching and methodologies. Further, it was reported that the primary concern is the inability of the science teachers to utilize appropriate and timely teaching strategies to address the learning needs of students.

Furthermore, Launio (2019) stated that some of the pressing challenges in learning English are an insufficient teaching-learning approach and strategies, lack of motivation among learners, low self-assurance in learning science, huge numbers of students in every class, broken connection with other lessons, inadequate number of laboratory equipment and facilities, and insufficient time distribution for science education despite the intensive curriculum.

Rafanan et al. (2020) espoused that current English education has re-focused on teaching the learners to be conversant and conclusive about how science influences their lives and uses scientific knowledge to solve difficulties. However, the challenge is how English teachers enhance learners' performance and develop scientific literacy. Additionally, to develop scientifically literate learners, teachers must utilize different teaching approaches, such as evidence-based, inquiry methods, and other learner-centered teaching approaches.

However, Fajardo (2019) states in her study that among the most popular of these tools are computers, videos, televisions, camcorders, laser disk players, projection systems, and modems. The new technology of teleconferencing, multimedia applications, and the internet has become a useful and common trend in school, the business industry, and even at home. Unfortunately, due to the limited and inadequate provisions of facilities and supplies, teachers and educators were forced by the prevailing circumstances to live up to the

available working conditions.

The use of multimedia-assisted instruction occasionally speaks of the reality that teachers' practice of demonstrating the said task would only be during special occasions, such as evaluation periods, seminars, or school visits of high-ranking officials. In a similar investigation, Dalton (2018) pointed out that computers in schools provide opportunities to students to experience authentic technology, which is directed at changing people's knowledge, experience, skills, and attitudes. The scarcity of adequately trained and experienced analysts, software engineers, systems and network managers, restrains the ICT development education system in Uganda. He emphasized the importance of training for the adoption and diffusion of computers in schools.

The study of Mayer (2013), Rahman (2019), and Stoilescu (2019) gives the researcher a huge understanding of multimedia. Upon reading/ reviewing their studies, the researcher came up with an insight that most proponents of the study of multimedia were Mayer (2013); the theoretical side of this study was influenced by the constructivist approach of Brunner (1970). The researchers had provided good examples of practices on the integration of multimedia and its effects. multimedia production process, practical use of multimedia in teaching and learning. This is of high importance, as the integration of ICTs with pedagogy is a key component of the concept of 'new pedagogy' that meets the demands of the Global inclusive knowledge society.

Idiaghe (2019) revealed that students are facing multiple problems in the field of English education. Explanations based on science and technology are likely to offer corrective measures to some of these difficulties. However, as we recognize today, science learning has become simpler because of technology. Some of the challenges in science teaching and learning are linked to teaching approaches and methodologies. Additionally, teachers' adaptation to evidence-based learning provides an opportunity for students to learn and develop higher-order and critical thinking skills.

Furthermore, Moskowitz (2021) suggests that challenges in English learning are consistent with the lack of teachers' ability to utilize teaching approaches responsive to the learning needs of students, infrastructure and resources for teaching, learners' background, the language of instruction, and lack of parental support.

Consequently, the inadequacy of teachers' resourcefulness to adapt an evidence-based approach in teaching science could lead to unproductivity among learners. Students in institutions whose teachers lack instructional competence performed lower in the national achievements test, unlike their counterparts in schools with teachers who have the creativity and initiative to use different approaches in teaching.

Emplit and Zhang (2020) argued that evidence-based learning and teaching are complex and multifaceted, as they cover intersecting fields and areas of universality. It covers pedagogy, didactics, scholarship of teaching and learning, and also quality assurance processes, data collection and management, as well as governance and management models.

It was also emphasized that evidence-based learning and teaching approach is guided by ubiquitous critical thinking and typically includes the following main steps, to be carried out in a cyclical ways, such as deciding on, and defining the questions to be addressed; collecting and analysing evidence; elaborating and designing initiative including objectives and assessment indicators, implementing and practicing the initiative, assessing the outcomes of the initiatives against its goals and indicators, and taking decisions based on evidence against its objectives and indicators.

In a similar investigation, Anderman et al. (2019) reported that evidence-based learning and teaching (EBLT) is seen as an individual activity whose scientific and evidence-based aspects only relate to the teachers' own teaching research, not to their teaching. The approach opens opportunities for exchanging and collaborating with peers, in experimenting, implementing, and assessing outcomes of pedagogical practice.

Orleans (2020), on the other hand, proposes that the need to adapt evidence-based learning and teaching in science teaching is to improve teaching-learning processes. Additionally, he emphasized that in its utilization, teachers need to grant sufficient flexibility to accommodate the specific context of different topics in the science subject.

In one hand, Larsen, et al. (2019) pointed out that evidence-based as a process has the following five-step model; asking critical questions to students on the topic, collect the most relevant evidence based on student's answer and allowing them to cite evidences or studies that support their answers, evaluate answers based on facts and evidences or findings of researches conducted, and integrate the evidence with one's personal experience or experiences. Furthermore, it was emphasized that this approach will allow students to participate and collaborate with classmates and, at the same time, develop their higher-order and critical thinking skills.

Moreover, modern multimedia in combination with social media and open educational resources contribute to reaching one of UNESCO's main goals in education – to make quality education more accessible for all. In this innovation, a systematic explanation of several pedagogical scenarios for the use of multimedia in education, including the description of the different aspects of performance and portfolio assessment, and the role of multimedia end users, is provided.

## **Methodology**

This section deals with the research design, research respondents, research instrument data gathering procedures, categorization of

variables, and statistical treatment of data.

## Research Design

The study utilized the descriptive research design. Descriptive research, according to Calderon et al (2012), is a fact-finding inquiry or investigation. It was employed to develop a thorough knowledge of the primary causes of the given situations. In addition, descriptive design as an inquiry used an in-depth analysis of the problem, which includes data collection methods, including, but not limited to, the survey questionnaire and the like.

Subsequently, a descriptive research design will be utilized to quantify the problem by generating numerical data or data that can be transformed into usable statistics. This method measures variables through the use of quantifiable or finite data, and the analysis will be based on generated information from statistical tools. This method was also used in an inquiry with a larger population. Successively, descriptive data gathering procedures comprise different types of gathering information, such as, but not limited to, the use of adapted survey questionnaires.

## Respondents

The respondents of the study are the teachers and pupils of Casinglot Elementary School. Fifty (50) Grade 4, 5, and 6 pupils answered the survey questionnaire on the utilization of multimedia in teaching Science, and for their academic and school performance, which was utilized in this study. The respondents will be purposively chosen for their convenient accessibility.

## Instrument

The research instruments were adapted from Ontoy (2012), who conducted a study on the utilization of multimedia in teaching English subjects in the public school. The research instruments are composed of two parts. Part I is on the multimedia-based instruction of teachers with ten (10) indicators, while the second part is the level of pupils' performance in English, which is described as Outstanding, Very Satisfactory, Satisfactory, Fairly Satisfactory, and Did not meet Expectations.

## Procedure

The researcher asked permission from the Schools Division Superintendent through the recommendation of the Dean of the Graduate School and the School Principal to conduct the study. Subsequently, the same approval was sought from the parents or parents' consent to allow the researcher to gather the needed data from the pupils and utilize said information for the study. After the respondents provided the information, the researcher retrieved the questionnaire, summarized, tabulated, and submitted it to the Statistician for statistical analysis.

## Data Analysis

The following statistical treatments were utilized to analyse the data of the study:

Mean values and standard deviation were used to present the extent of multimedia-based instruction of teachers. Frequency counts and percentages were used to present the level of pupils' performance in English. Pearson-Product Moment Correlation or Pearson-r was utilized to ascertain a significant relationship between the level of pupils' performance in English and the multimedia-based instruction of teachers in Binubongan Elementary School.

## Results and Discussion

This section presents the data gathered, the results of the statistical analysis done, and the interpretation of the findings. These are presented in tables following the sequence of the specific research problems.

### *What is the multimedia-based instruction in English utilized by teachers in Binubongan Elementary School?*

A multimedia-based approach is a modality in which learning in English can be done with the aid of technology, ICT, and the like. It has been used in teaching more widely and deeply, as it contributed a lot to higher teaching standards. Table 1 shows the mean distribution of the extent of multimedia-based instruction in English utilized by teachers in Casinglot Elementary School.

Table 1 displays the mean distribution of the extent of multimedia-based instruction in English. At a glance, an overall mean of 3.21 (SD= .580) was described as "Sometimes" on the importance of a multimedia-based approach in learning English. This implies that the ICT application in the school where this study is conducted is quite challenging for the teachers. Thus, it is hereby suggested to develop technological skills among English teachers. Due to the new technological innovations, there has been great progress in almost all fields (Rao, 2019). Technology has become a part of teaching and learning (Ibid).

The indicators, "Utilizes video/video clips in presentation of some lessons in English," "Utilizes computers for research and presentation of English concepts to the class," and "Utilizes PowerPoint in the presentation of the lesson in English" all obtained the highest mean of 3.43 (SD= .679), which all described as "Sometimes." These results imply that the teachers occasionally utilize video, computers, and PowerPoint in the presentation of the lesson in English. It can be inferred that the teachers are not fully aware of the impact of multimedia-based teaching of English. Thus, it is important to note that innovative learning is essential in the English subject.



Technological innovations are part of education and English language teaching (Chong, 2020). Accordingly, only the innovations that come with solid teaching practices will stand the test of time.

Table 1. *Distribution of the Extent of Multimedia-Based Instruction in English*

Indicators	Mean	SD	Verbal Description
1. Utilizes video/video clips in presentation some lessons in English	3.43	.679	Sometimes
2. Utilizes computers for research and presentation of English concepts to the class	3.43	.679	Sometimes
3. Utilizes PowerPoint in the presentation of the lesson in English	3.43	.679	Sometimes
4. Utilizes television channels or programs to meaningfully learn English concepts	3.36	.556	Sometimes
5. Utilizes graphics such as illustrations, charts, and pictures for pupils to construct knowledge	3.10	.305	Sometimes
6. Allows pupils to perform guided online research in English	3.10	.305	Sometimes
7. Allows pupils to learn English in the environment or outside the classroom/laboratory	3.26	.449	Sometimes
8. Allows pupils to use Android phones (if available) for instruction purposes in English	3.06	.691	Sometimes
9. Allows pupils to use Android phones, laptops, or computers for asynchronous or synchronous learning in English	3.00	.694	Sometimes
10. Allows pupils to learn English using unwired and offline modalities	2.90	.759	Sometimes
Overall	3.21	.580	Sometimes

Legend: 4.50-5.00=Always/3.50-4.49=Most of the Time/2.50-3.49= Sometimes/1.50-2.49= Seldom/1.00-1.49= Never

Moreover, the lowest mean of 2.90 (SD= .759) verbally described as "Sometimes" in the indicator, "Allows pupils to learn English using unwired and offline modalities." This indicates that the teachers occasionally allow the learners to learn using unwired and offline modalities. This can be attributed to the fact that most of the pupils nowadays are reliant on technology. Thus, English teachers should consider proper innovation and technology engagement in teaching. In this digital age where technology is everywhere, it behooves educators to embrace and use it for the benefit of the learners (Ferlazzo, 2019). It is suggested to integrate technology in instruction to enhance the learning experiences.

***What is the pupils' performance in English in a multimedia-based learning environment when they are categorized as outstanding, very satisfactory, satisfactory, fairly satisfactory, or did not meet expectations?***

The pupils' performance is the result of the fulfillment and accomplishment of the learning objectives. It can be assessed and evaluated in line with the implementation of information and communication technology in the learning of the English subject. Table 4 displays the frequency and percentage distribution of the pupils' performance in English in a multimedia-based learning approach.

Table 2. *Distribution of the Pupils' Performance in English in a Multimedia-Based Learning Environment*

Pupils' Performance in English in a Multimedia-Based Learning Environment	Frequency	Percentage
Outstanding	5	17%
Very Satisfactory	5	17%
Satisfactory	32	64%
Fairly Satisfactory	8	27%
Did not Meet Expectation	0	0
Total	50	100%

Table 2 shows the frequency percentage distribution of the pupils' performance in English in a multimedia-based learning environment. It can be revealed that 32 (64 %) respondents were rated satisfactory in their English performance. This result implies that the majority of the pupil respondents are good at learning English based on a multimedia approach. Thus, it is recommended that English teachers should enhance their skills in promoting technology-aided instruction as it is a necessary factor to encourage the interest of the learners. Teachers would benefit from more personal training on implementing the technology in the classroom so that they feel more comfortable with the inclusion of technology (Carstens, Mallon, Bataineh, & Al-Bataineh, 2021). Additionally, educators also felt that students need more training with the provided technology to help promote independence (Ibid).

On the other hand, the lowest frequency of 5 (17%) denotes respondents who both obtained a very satisfactory and an outstanding rating. These results indicate that only a few of the learners are performing in the English subject, and only a few of them got a very good rating. Thus, it is a challenge for the school to promote a school-based activity that would enhance the learners' ability in the English subject. Anwer (2019) noted that activity-based teaching enhances student motivation and improves academic achievement in education. It stated that teaching styles attract students and play a positive role in student motivation, and improve academic achievement for better results in learning.

***Is there a significant relationship between the pupils' performance in English and the extent of multimedia-based instruction of teachers in Binubongan Elementary School?***

Learning English is assessed through the pupils' performance based on the required learning competency, along with the implementation of multimedia-based instruction by teachers. The foregoing approach can be described as an essential tool in the fulfillment of the learning of the English subject in modern times. Table 5 shows the test of the interplay between the pupils' performance and the extent of multimedia-based instruction of teachers in Casinglot Elementary School.

Table 3. Result of the Test of the Interplay between the Pupils' Performance and the Extent of Multimedia-Based Instruction

Respondents' Extent on:	Pupils' Performance in English			
	(r)	p-value	Interpretation	Decision on $H_0$
Multimedia-Based Instruction	.375	.041	Indicates Low or Slight Relationship	Rejected

\*significant at  $p < 0.05$  alpha level

Table 3 displays the result of the test of the interplay between the pupils' performance and the extent of multimedia-based instruction. It reveals that the respondents' extent of multimedia-based instruction indicates "Low or Slight Relationship" to the pupils' performance in English ( $r = .375$ ), as indicated by the probability value ( $p = .041$ ), which means significant. This result implies that the integration of technology significantly influences the pupils' performance in English. This means that the students who are more properly engaged in technology are more likely have the chance of learning. Thus, an effective innovative teaching strategy is deemed necessary to establish. Innovative methods help in bringing a change, and most of the time for the better (Anburaj, Christopher, & Ming, 2014). They added that innovative methods help the students learn faster and in an efficient, interesting, and interactive manner, and it is the teacher's responsibility to leave the traditional methods and make way for new and better methods for the students' benefit.

Further, Ampa and Nurgalbi (2021) opined that one of the factors that may influence the success of the teaching and learning process is to use appropriate and innovative strategies of both online and offline. Therefore, this present study implied that the null hypothesis was rejected as the extent of multimedia-based instruction and the pupils' performance were all found to be significant, thus, they were associated.

## Conclusions

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

The select teachers of Binubongan Elementary School are challenged in integrating technology in teaching English as they occasionally utilize video, computers, and PowerPoint in presenting their lessons. It can be concluded that the teachers are not fully aware of the impact of technology on teaching English. On the other hand, the teachers occasionally permit the learners to learn using unwired and other offline learning resources.

Most of the select pupils of Binubongan Elementary School are good at learning English based on a multimedia approach. On the other hand, a few of them are performing excellently in the English subject, and only a few of them got a very good rating. It can be concluded that the pupils' performance in English and the extent of multimedia-based learning were found to be significant. The performance of the pupils is significantly associated with the integration of technology in teaching English. Henceforth, the students who are more properly engaged in technology are most likely to have better chances of learning in English.

Based on the findings and conclusions presented, the following recommendations are suggested:

The Department of Education (DepEd) should effectively monitor the implementation of ICT integration in teaching English. It is suggested that they should provide logistical support to develop ICT facilities in schools. School Principals or School Administrators, aside from extending moral support, are recommended to promote a school-initiated program that would boost the technological skills of the English teachers. Teachers, particularly the English teachers, are advised to engage in professional development that would promote their pedagogical skills in advanced technological teaching of the English subject. Parents and Other Stakeholders are recommended to help the school in promoting the English subject. They are suggested to extend their logistical and moral support to improve the ICT facilities of the school. Future Researchers are recommended to widen the scope of studying multimedia-based approaches in teaching English. They are advised to use other variables that would enhance their study.

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### **Affiliations and Corresponding Information**

**Riena Grace R. Caballes**

Binubongan Elementary School

Department of Education – Philippines

 [rienagraccaballes@gmail.com](mailto:rienagraccaballes@gmail.com)