Enhancing English Speaking Skills of Ninth-Grade Students through a Multimedia Instructional Approach

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Abstract

The present study examined the effectiveness of a multimedia instructional approach in enhancing the English speaking skills of ninth-grade students. The study employed a quasi-experimental method using a pre-test–post-test nonequivalent group design. The sample consisted of 80 ninth-grade students selected from a secondary school and divided into an experimental group (40 students) and a control group (40 students). The experimental group was taught through a Multimedia Compilation for English Speaking Skill Promoting (MCESP), while the control group received instruction through the prevailing constructivist activity-based teaching approach. The intervention was conducted over a period of one month comprising 20 instructional sessions. The Analytic Rubrics for Testing Speaking Skill in English (ARTSE) developed by Heera and Arjunan (2012) was used to assess students' speaking skills before and after the intervention. The collected data were analyzed using descriptive statistics and inferential techniques such as paired sample t-test and independent sample t-test. The results revealed that both groups showed improvement in speaking skills; however, the experimental group demonstrated significantly higher gains compared with the control group. The findings indicate that the multimedia instructional approach was more effective than the conventional constructivist approach in enhancing English speaking skills among secondary school students. The study highlights the pedagogical potential of multimedia-based instruction in language classrooms and emphasizes the importance of integrating technology-supported teaching strategies to improve oral communication skills in English.

Keywords: Multimedia Instruction, English Speaking Skills, Secondary School Students, Multimedia-Assisted Language Learning.

1. Introduction

The ability to communicate effectively in English has become a critical competence in the context of globalization, international communication, and academic mobility. Among the four language skills, speaking is widely recognized as the most complex and demanding skill for learners of English as a Foreign Language (EFL), as it requires the simultaneous use of linguistic knowledge, pronunciation, fluency, and communicative confidence (Fathi et al., 2024). Many secondary school learners experience difficulties in expressing ideas orally due to limited exposure to authentic language input and insufficient opportunities for interactive practice in traditional classrooms (Asratie, 2023). These challenges are

particularly evident in many developing contexts where teacher-centered instruction and textbook-based activities dominate language teaching practices. Recent developments in educational technology have encouraged the integration of multimedia resources such as audio, video, animation, and interactive digital tools in language instruction. Multimedia learning environments provide multisensory input that can enhance learner engagement, contextual understanding, and language retention (Yi, 2024). Research has indicated that multimedia-assisted instruction can significantly improve learners' speaking performance by providing authentic pronunciation models, contextual vocabulary exposure, and opportunities for repeated practice (Saed et al., 2021; Asratie, 2023). Similarly, audiovisual materials such as videos and digital media create meaningful communicative contexts that facilitate oral language development and motivate learners to participate actively in speaking activities (Salamea-Avila & Fajardo-Dack, 2023). Experimental studies have also reported that multimedia inputs contribute to improvements in fluency, grammatical accuracy, and overall speaking proficiency among EFL learners (Tran, 2024; Shofi, 2025).

Despite these promising findings, existing studies have several limitations. Much of the research on multimedia-based speaking instruction has been conducted in higher education or foreign language institutes, with relatively limited attention given to secondary school learners. Moreover, many studies focus on specific digital tools or online platforms rather than structured multimedia instructional programmes implemented within regular classroom contexts. In the Indian school context, particularly in Tamil Nadu, empirical experimental research examining the effectiveness of multimedia-based instructional approaches for improving English speaking skills remains scarce. Therefore, the present study attempts to address this research gap by examining the effectiveness of a Multimedia Compilation for English Speaking Skill Promoting (MCESP) among ninth-grade students in the Kanyakumari district of Tamil Nadu using a pre-test post-test control group experimental design. By comparing the multimedia-based instructional approach with the prevailing activity-based teaching method, the study seeks to provide empirical evidence regarding the pedagogical value of multimedia integration in secondary-level English language classrooms.

2. Objectives

The investigation was undertaken with the following objectives:

1. To assess the level of English speaking skills of ninth-grade students before the implementation of the instructional intervention.

2. To develop and implement a Multimedia Compilation for English Speaking Skill Promoting (MCESP) for ninth-grade students.

3. To examine the effectiveness of the Multimedia Compilation for English Speaking Skill Promoting (MCESP) in enhancing the English speaking skills of ninth-grade students.

4. To compare the post-test English speaking skills of students taught through the Multimedia Compilation for English Speaking Skill Promoting (MCESP) and those taught through the prevailing activity method.

5. To determine whether there is a significant difference between the pre-test and post-test scores of English speaking skills among students in the experimental group.

6. To determine whether there is a significant difference between the pre-test and post-test scores of English speaking skills among students in the control group.

3. Hypotheses

The following null hypotheses were established for empirical testing in the study.

1. There is no significant difference between the experimental group and the control group with regard to their pre-test scores in English speaking skills.

2. There is no significant difference between the pre-test and post-test scores of English speaking skills among ninth-grade students in the experimental group taught through the Multimedia Compilation for English Speaking Skill Promoting (MCESP).

3. There is no significant difference between the pre-test and post-test scores of English speaking skills among ninth-grade students in the control group taught through the prevailing activity method.

4. There is no significant difference between the experimental group and the control group with regard to their post-test scores in English speaking skills.

5. There is no significant difference between the mean gain scores of English speaking skills of students in the experimental group and those in the control group.

4. Methodology

The present study employed an experimental approach to examine the effectiveness of a multimedia instructional strategy in enhancing the English speaking skills of ninth-grade students. A quasi-experimental pre-test–post-test nonequivalent group design was adopted, as intact classroom groups were used for the intervention. The population of the study comprised ninth-grade students studying in schools following the curriculum prescribed by the Tamil Nadu State Council of Educational Research and Training (TNSCERT). The sample consisted of 80 students selected through purposive sampling from a secondary school. The students were divided into two groups of equal size (40 each), designated as the experimental and control groups. The experimental group that received instruction through the Multimedia Compilation for English Speaking Skill Promoting (MCESP) and a control group that was taught using the prevailing activity-based teaching approach. Both groups were administered a pre-test to determine their initial level of English speaking skills. Following this, the experimental group underwent the multimedia-based instructional intervention for one month, consisting of 20 instructional sessions of approximately 35–40 minutes each, while the control group received conventional instruction during the same period. At the end of the intervention, a post-test was administered to both groups to measure changes in speaking proficiency. The instrumentation part of the study consisited of: (i) the Multimedia Compilation for English Speaking Skill Promoting (MCESP), a researchers-developed instructional package consisting of multimedia resources such as videos, audio recordings, graphics, animations, images, and interactive digital materials designed to facilitate the development of speaking skills, (ii) the Analytic Rubrics for Testing Speaking Skill in English (ARTSE) developed by Heera and Arjunan (2022), which assesses speaking proficiency across components such as vocabulary, grammar, semantics, and

phonology, and (iii) the lesson transcripts based on the constructivist teaching approach used for the control group. The collected data were analyzed using descriptive statistics and inferential techniques including independent and paired sample t-tests.

5. Analysis and Interpretation

The data collected for the study were analyzed using both descriptive and inferential statistical techniques in order to determine the effectiveness of the Multimedia Compilation for English Speaking Skill Promoting (MCESP) in enhancing the English speaking skills of ninth-grade students. Descriptive statistical indices such as mean, median, mode, standard deviation, skewness, and kurtosis were computed from the ARTSE (Analytic Rubrics for Testing Speaking Skill in English) scores to examine the distributional characteristics of the scores (Table 1).

Table 1: Statistical Indices Relating to Pre-Test Scores of Experimental and Control Group

Group	N	M	Mdn	Mo	SD	Sk	Ku
Control	40	20.93	20.5	18	5.23	-0.004	-0.785
Experimental	40	21.03	20.5	23	5.31	0.229	-0.580

The table shows that the mean score of the experimental group is 21.03, whereas the control group obtained a mean score of 20.93. The difference between the mean scores of the two groups is only 0.10, which indicates that the two groups were almost identical in their level of English speaking skills prior to the intervention. The median values for both groups are the same (20.5), suggesting that the distribution of scores in both groups is quite comparable. Similarly, the standard deviation values of 5.31 for the experimental group and 5.23 for the control group indicate that the variability of scores around the mean is nearly the same for both groups. The skewness values reveal that the control group shows an almost symmetrical distribution (Sk = –0.004), while the experimental group exhibits a slight positive skewness (Sk = 0.229). The kurtosis values for both groups are negative, indicating slightly platykurtic distributions. Overall, the descriptive statistics presented in Table 1 indicate that both groups were homogeneous and comparable before the commencement of the experimental treatment. The descriptive statistics of the post-test scores of the experimental and control groups are presented in Table 2.

Table 2: Statistical Indices Relating to Post-Test Scores of Experimental and Control Group

Group	N	M	Mdn	Mo	SD	Sk	Ku
Control	40	27.75	28.5	29	5.54	-0.187	-0.557
Experimental	40	40.33	39	35	8.71	0.571	-0.125

The table reveals that the experimental group obtained a mean score of 40.33, whereas the control group secured a mean score of 27.75. This substantial difference in the mean scores indicates that the students who were exposed to the multimedia instructional approach demonstrated considerably higher

levels of English speaking proficiency than those who were taught through the prevailing activity-based method. The median values for the experimental and control groups are 39 and 28.5 respectively, which further confirm the higher level of performance achieved by the experimental group. The standard deviation values of 8.71 for the experimental group and 5.54 for the control group indicate that the spread of scores is slightly greater in the experimental group. The skewness values reveal that the experimental group shows moderate positive skewness (Sk = 0.571), while the control group shows slight negative skewness (Sk = –0.187). The kurtosis values for both groups are slightly negative, suggesting relatively flatter distributions. The descriptive statistics presented in Table 2 therefore indicate a clear improvement in the performance of the experimental group compared to the control group after the instructional intervention.

Further evidence of the effectiveness of the multimedia instructional approach can be obtained from the analysis of the gain scores, which represent the difference between the post-test and pre-test scores. The descriptive statistics of the gain scores of the experimental and control groups are presented in Table 3.

Table 3: Statistical Indices Relating to Gain Scores of Experimental and Control Group

Group	N	M	Mdn	Mo	SD	Sk	Ku
Control	40	6.83	6.00	6.00	3.51	0.660	0.438
Experimental	40	19.20	19.00	19.00	4.78	0.211	0.110

The table shows that the experimental group obtained a mean gain score of 19.20, whereas the control group obtained a mean gain score of only 6.83. This large difference in the gain scores indicates that the improvement in English speaking skills was considerably greater among the students who received multimedia-based instruction. The median and mode values for the experimental group are both 19, whereas the corresponding values for the control group are 6, which further supports the observation that the experimental group demonstrated substantially higher improvement. The standard deviation values indicate that the variability of gain scores is somewhat greater in the experimental group (4.78) than in the control group (3.51). The skewness values of both groups are positive, indicating that a larger proportion of students achieved higher gains than lower gains. The kurtosis values are slightly positive, suggesting moderately peaked distributions. The descriptive statistics presented in Table 3 clearly demonstrate the greater improvement achieved by the experimental group. To determine whether the difference between the experimental and control groups in the pre-test scores was statistically significant, an independent sample t-test was conducted. The results of this comparison are presented in Table 4.

Table 4: Comparison of the Pre-test Scores of Control Group and Experimental Group

Groups	Statistical indices			t-value	Sig.
	N	M	SD		
Control	40	20.93	5.23	0.93	NS

Experimental	40	21.03	5.31

The obtained t-value of 0.93 was not significant at the 0.05 level. This result indicates that there was no significant difference between the experimental and control groups with regard to their English speaking skills before the commencement of the experimental intervention. Thus, the two groups can be considered equivalent at the beginning of the study. The effectiveness of MCES was further examined by comparing the pre-test and post-test scores of the experimental group (EG) using a paired sample t-test (Table 5).

Table 5: Comparison of the Pre-test and Post-test Scores of Experimental Group

Scores	Statistical indices			t-value	Sig.
	N	M	SD		
EG: Pre-test scores	40	21.02	5.31	25.71	.001
EG: Post-test scores	40	40.20	8.48		

The obtained t-value of 25.71 was significant at the 0.001 level. This indicates that there is a highly significant difference between the pre-test and post-test scores of the experimental group. The result clearly demonstrates that the multimedia instructional intervention had a substantial impact on improving the English speaking skills of the students in the experimental group. A similar comparison was conducted for the control group (CG) to examine the effectiveness of the conventional constructivist teaching approach (Table 6).

Table 6: Comparison of the Pre-test and Post-test Scores of Control Group

Scores	Statistical indices			t-value	Sig.
	N	M	SD		
CG: Pre-test scores	40	20.92	5.24	12.31	.001
CG: Post-test scores	40	27.75	5.54		

The obtained t-value of 12.31 was significant at the 0.001 level, indicating that the control group also showed a significant improvement in English speaking skills after the instructional period. However, the magnitude of improvement in the control group was considerably smaller than that observed in the experimental group. To find out the effectiveness of the two instructional approaches, the post-test scores of the experimental and control groups were compared using an independent sample t-test (Table 7).

Table 7: Comparison of the Post-test Scores of Control Group and Experimental Group

Scores	Statistical indices			t-value	Sig.
	N	M	SD		
Control	40	27.75	5.54	2.72	.01

Experiment	40	40.23	8.53

The results presented in Table 7 reveal that the obtained t-value of 2.72 is significant at the 0.01 level. This indicates that the experimental group performed significantly better than the control group in the post-test. The higher mean score of the experimental group clearly demonstrates the superiority of the multimedia instructional approach over the prevailing teaching method. Finally, the gain scores of the experimental and control groups were compared to determine which instructional approach resulted in greater improvement in English speaking skills even after removing the effect of respective pre-test scores (Table 8).

Table 8: Comparison of the Gain Scores of Control Group and Experimental Group

Scores	Statistical indices			t-value	Sig.
	N	M	SD		
Control	40	6.83	3.51	13.29	.001
Experiment	40	19.20	4.78		

The obtained t-value of 13.29 was significant at the 0.01 level, indicating a highly significant difference between the gain scores of the two groups. The experimental group achieved a much higher mean gain score than the control group, which clearly demonstrates that the multimedia instructional approach was more effective than the conventional constructivist approach in enhancing the English speaking skills of ninth-grade students.

6. Discussion

A major finding of the study was the significant improvement in the speaking skills of the experimental group after exposure to the multimedia instructional programme. The difference observed between the pre-test and post-test scores of the experimental group clearly indicates that the multimedia-based intervention had a substantial impact on students' speaking performance. This finding is consistent with recent research highlighting that multimedia learning environments facilitate language acquisition by providing multimodal input through audio, visual, and interactive elements. Such environments allow learners to observe authentic pronunciation models, contextual language usage, and communicative situations that contribute to the development of speaking proficiency (Yi, 2024; Procel et al., 2024). The results of the study also showed that the control group, which was taught through the conventional constructivist teaching approach, exhibited a statistically significant improvement in speaking skills. This suggests that learner-centred instructional strategies involving classroom interaction and activity-based learning can contribute to the development of speaking competence (Odilova, 2025). However, the improvement achieved by the control group was considerably lower than that of the experimental group. This indicates that although traditional communicative and activity-based teaching methods can improve speaking skills to some extent, the integration of multimedia resources considerably enhances the effectiveness of language instruction.

The comparison of post-test scores between the experimental and control groups further revealed that the experimental group performed significantly better than the control group after the intervention. This finding strongly supports the effectiveness of multimedia-assisted language learning in developing speaking proficiency. Multimedia-based instruction provides learners with rich linguistic input, opportunities for repeated listening and speaking practice, and contextualized communication tasks that promote active participation in language learning. Research has shown that technology-mediated speaking activities can significantly improve learners' speaking ability and their willingness to communicate in English (Fathi, 2024; Robillos, 2023). Another important finding of the study emerged from the comparison of gain scores between the experimental and control groups. The experimental group obtained significantly higher gain scores than the control group, indicating that the multimedia instructional approach was more effective in improving speaking skills. Multimedia resources such as videos, audio recordings, animations, and graphics create engaging learning environments that enhance students' motivation to communicate in English. Interactive multimedia environments also allow learners to receive immediate feedback and practice language skills in meaningful contexts. Previous studies have similarly reported that interactive multimedia tools can significantly enhance learners' speaking competence by combining text, audio, and visual elements in the learning process (Nabung, 2023).

The findings of the present study are further supported by research indicating that digital media and technology-enhanced learning environments contribute significantly to the development of speaking proficiency. Digital media tools enable learners to practice pronunciation, vocabulary usage, and sentence construction more effectively, thereby improving their confidence in speaking English (Nasim et al., 2022). Similarly, the integration of multimedia resources such as videos, animations, and interactive digital tools has been found to enhance learner engagement and create authentic communicative situations that facilitate oral language development (Segar, 2024). Overall, the findings of the study clearly demonstrate that multimedia-assisted instructional approaches are highly effective in promoting English speaking skills among secondary school students. The results indicate that integrating multimedia resources into language classrooms can create a more engaging, interactive, and learner-centred learning environment that facilitates the development of oral communication skills and supports effective language learning (Garcia & De la Cruz, 2025).

7. Conclusion

The present study examined the effectiveness of a multimedia instructional approach in enhancing the English speaking skills of ninth-grade students. The findings of the study clearly demonstrate that the Multimedia Compilation for English Speaking Skill Promoting (MCESP) had a significant positive impact on the speaking proficiency of the students in the experimental group. The comparison of pre-test and post-test scores revealed substantial improvement in the speaking skills of students who were exposed to the multimedia-based instructional programme. Although the control group, which was taught through the prevailing constructivist activity-based method, also showed some improvement, the magnitude of progress achieved by the experimental group was considerably higher. The significant difference observed between the post-test scores and gain scores of the experimental and control groups indicates the superiority of the multimedia instructional approach over the conventional teaching method in promoting English speaking skills. The integration of multimedia resources such as audio, video, graphics, and

interactive materials appears to have provided a stimulating and engaging learning environment that facilitated better comprehension, pronunciation, and fluency among the learners. The results of the study highlight the pedagogical potential of multimedia-based instruction in language classrooms and underscore the importance of integrating technology into English language teaching at the secondary school level. Therefore, it can be concluded that the multimedia instructional approach is an effective strategy for enhancing the English speaking skills of secondary school students.

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