



Research article

Effectiveness of Audio-visual Materials in Teaching Reading for Young EFL Learners in Bangladesh

Shayla Sharmin Snigdha^{1*} , Moriom Akter² 

¹ Khulna university, Bangladesh

² 93, Volarpar Ideal Govt. Primary School, Bangladesh

* Correspondence: sssnigdha91@gmail.com

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Abstract: This article presents the effectiveness of audio-visual materials on young learners' reading skills in an EFL context. It aims to see the result of developing their abilities by using audio-visual materials in the classroom. The study was conducted on 35 students of Tutpara Model Government Primary School in Khulna, a southern district of Bangladesh. It was an experimental study where a pre-test and a post-test were given to experiment with the students who were selected randomly. The students were taught with audio-visual materials for 3 months. The results of the research finds that there is a progress of the students' reading skills after the use of audio-visual materials. The students were able to read out the text with more confidence, could make development in pronunciation and also could increase their vocabulary knowing unfamiliar words and their meanings. As a by-product, the learners were more enthusiastic in learning being entertained in the multimedia classroom and gave full concentration on particular tasks than in their regular class.

Keywords: audio-visual materials, reading comprehension, experiment, EFL learners

1. Introduction

Teaching reading is fundamental for EFL learners as they mostly learn the foreign language by reading and it is crucial for them. (Debat, 2006:8). As one of the four language skills, its teaching needs carefully selected materials, activities and methods. Skills in reading enable learners to achieve academic benefit from educational activities and also to participate in the social and economic activities in the target language. Beatrice (2008) defines reading skills as the cognitive processes that a reader uses in making sense of a text. EFL students may face a lot of difficulties to read and comprehend the language due to their unfamiliarity to the language. Second or foreign language learners want to visualize what they know from reading in the target language though they do that in their own language. Only the proficient bilingual readers can understand and relate the L1 and L2. They are aware of the similarity between the languages, and explicitly transfer information or strategies learned in one language to the other language as they think aloud. (Jiménez, García, & Pearson, 1996). Second and foreign language readers apply various strategies to overcome the obstruction in reading. These strategies include rewording or repeating an idea from the text in different ways until readers felt that they had comprehended the idea to the best of their ability and that lasts longer. Samuels (1979) thinks, repeated reading works positively to develop decoding automaticity with struggling readers.

1.1 Teaching Young Learners

Teaching young learners is different from teaching adults. Klein (2005, cited in Suganda, 2016) thinks that young children tend to change their mood every other minute, and they find it extremely difficult to sit still. On the other hand, they show a greater motivation than adults to do things that appeal to them. Interestingly, Ashworth and Wakefield (2005, p.3) claim that all young children are highly motivated to learn language. Harmer (2007, p. 81) identifies some characteristics of the young learners' learning methods. For example. They respond to meaning even if they do not understand individual words. They like to learn indirectly rather than directly, taking information from all sides, learning from everything around them rather than only focusing on the precise topic they are being taught. Their understanding comes not

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only from explanation, but also from what they see and hear and, crucially, have a chance to touch and interact with. Harmer (2007, 81) further identifies that they have a limited attention span; unless activities are extremely engaging, they can get easily bored, losing interest after ten minutes or so. Young learners may well be involved in creative tasks as puzzle-like activities, in making things, in drawing things, in games, in physical movement or in songs. This expectation can be mitigated by using technology in the classroom by which teachers might engage the learners with learning based on audio-visual materials.

1.2 Using Audio-visual Materials in EFL Classroom

Suganda (2016) identified three important points for success of children in reading: (1) innovative and suitable approach, (2) effective materials, and (3) parents or teachers' role.

Technology is ruling the world and doing many wonders in human life. Aligning with the invasion of the Fourth Industrial Revolution, technologies are rapidly advancing in various industries, and the educational field is not exempted from embedding technology in its sector (Mudin, Rahman & Jopony, 2018: p. 3).

Using technology in the classroom is a technique for teaching and learning because in this modern era, technology plays a vital role and now this method is very beneficial for teaching language effectively. The audio-visual materials like sounds, pictures, graphics etc. create a visual effect and reiterates the ideas that can improve the cognitive ability of students so that they can easily relate it to the practical object. Learning, in this way, lasts longer in their memory. Teachers have the role as a facilitator and observer in the class so that they can easily reach them and identify the problems of individual learners. Most of the EFL learners feel difficulties and anxiety in learning English when they are to read and comprehend new words. Moreover, students sometimes are reluctant to concentrate on the teachers' words because of the detachedness with the target language. For this reason, they fail to know many words and reading a text becomes too hard for them.

Learning through the audio-visual materials help the learners learn with amusement as it reduces the anxiety as well as the monotony of following a language class. The term audio-visual materials are defined by Dike (1993) as materials that do not depend solely upon reading to convey meaning. They may present information through the sense of hearing as in audio resources, sight, as in visual resources, or through a combination of senses. (As cited in Shamsideen, 2016).

The use of media in the classroom plays the most significant role in education, especially in English language teaching because teaching and learning activities become more interesting when audio-visual materials are used effectively. Some technologically advanced countries believed in the enlightenment and power of media technology and that's why they are going to adopt such technologies in the classrooms so that students using audio-visual aids may become highly qualified. (Kurt & Ciftci, 2012) (as cited in Tareen, Manan Khan, et al, 2021, p. 163-175).

Through, arising some questions, it tries to find out the effectiveness of the given materials such as: (1) What are the challenges of reading in the primary level School student of Bangladesh? (2) What are the benefits of using audio-visual materials in the classroom? (3) How can they develop their reading skill through these audio-visual materials? The paper also studies the impact of audio-visual materials on students' reading skill and main purpose to explore the problems in reading among primary level students and the effect of technology in language learning as well as the use of audio-visual materials in developing reading skills of the primary level students.

Learning visually is more effective than only hearing a lecture. Poor reading skills is the major problem in learning the English language. Students who are unable to read and have poor efficiency in reading such as poor vocabulary knowledge, word difficulty, poor knowledge of punctuations, spelling as well as intonation. Besides, the non-usages of audio-visual materials in the teaching learning process also make their performance inactive and dull. Natoli (2011) claims that audio-visual materials are important in the teaching and learning processes because "having seen something, most people remember, for whatever that thing was, it conjures up an image at a mere mention and can be talked about freely." (As cited in Shamsideen, 2016).

Dike (1993) also explained that students forget because of a lack of interest and opportunities to use the knowledge they have gained later on. Audio-visual resources can therefore contribute to the clarity of the information presented by allowing students to visualize what is learned.

1.3 Research Hypothesis

Audio-visual materials can help students develop their language skills, especially reading skills. Students can be able to accomplish reading and its micro skills, and recover their weaknesses if regular access of audio-visual materials are ensured in the class. In this study hypothesis was tested at 0.05 level of significance value. If the value of Sig. (2-tailed) was < 0.05 , then Hypothesis accepted, while if the value of Sig. (2-tailed) was > 0.05 , then Hypothesis is denied.

Hypothesis: There is a significant difference in student's performance after completing the treatment class who are taught by using audio-visual materials in the classroom.

2. Literature Review

Students vary in their choices of learning styles. It is important for both the teachers and the students to identify the choices to minimize the gap and to ensure the appropriateness between students' preferred ways of learning and teachers' teaching strategies (Haryana, Astina & Kurniawati, 2020). A Multimedia based classroom is more beneficial for students to develop their language skills, especially reading skills because through reading comprehension they can build up their vocabulary; pronunciation as well as background knowledge.

Olagbaju and Popoola (2020) say, "Teaching is a two-way interaction between the instructor and the learner. The use of audio-visual resources in teaching actively engages both the teacher and learners in conversation during instruction. Audio-visual technology improves the quality of learning and students' learning experience because concepts are easily presented and comprehended as words are complemented with images and animations".

Larsen-Freeman and Anderson (2011) supported the idea that technology affords teaching materials and creates exciting learning experiences for the world of learners. Through the use of technology, learners can be motivated to master all four language skills.

Kathirvel and Hashim (2020) stated that audio-visual materials are enticing tools for learners' eyes and ears that can be used to help teachers to educate the students. They also added that audio-visual materials are important teaching and learning tools that have been used by teachers to create a technology-based classroom. It helps both teachers and students in their everyday teaching and learning process.

Apart from that, Cakir (2006) said that everyone knew very well that audio-visual materials are a great helper in stimulating and facilitating the foreign language learning process. According to him, students show more interest in language class with the use of audio-visual materials as it encourages them to stay focused, and they can relate their learning to their real life. He also added that, recently, the use of video in English classes had overgrown because of the increasing stress on communicative techniques.

Smith (2010), Ramadian, Cahyono and Suryati (2019) stated that applying VAK (Visual Auditory and Kinesthetic) learning styles in a class to accommodate the students' learning style preference will likely bring good achievement in English speaking classes. An assessment of the appropriateness of the VAK learning style is of potential value in helping decide on the appropriate learning style for improving students' speaking ability. Learning style is defined as a person's learning preferences to apprehend, organize, and process information and experiences in learning.

Supiyati (2011) asserted that one of the appropriate interventions to enhance students' speaking skills is the virtual implementation of audio-visual aids. She further adds, students become more excited when there is the usage of audio-visual aids in their daily lessons in the classroom and it is a proven fact that teaching and learning have been enjoyed by not just students but also teachers while teaching them.

Koksal (2004, 63) expects that teachers shouldn't be so dependent on the board and textbooks. They can encourage students to be more actively involved in the learning process through the use of films, which also enable students to be entertained while they are learning the language in question. Tomalin and Stempleski (1993) think that that videos stimulate student interest to acquire the target culture, as well as language and claim that video can communicate meaning better than any other media. Cunning and Wallace (2001) discussed the usefulness of using videos in language teaching stating that video provides stimuli to the learners which facilitates an opportunity to the learners to get background schemata of the subject. Also, the use of videos helps the learners to have an idea of the stress and rhythm pattern of the target language. Moreover, it allows the learners to predict, infer and analyze information of the subject matter.

Kishore (2003) determined that audio-visual devices encouraged a person's thinking and understanding. These devices have significant effects in the process of learning new things. Use of such devices makes a strong correlation with better understanding.

Harmer (2007) says that a range of objects, pictures, and other things can be used as instructional media to present and manipulate language and to involve students in the activities. (as cited in Nurmahyuni et al., 2020)

Kinder (1942) states that, with the use of audio-visual resources the learning experience can be made more real, accurate and active.

Coe et al (2014) assume, “Individuals learn better when they receive information in their preferred learning style (for example, visual, auditory or kinesthetic)”

The discussion stated above mainly concerns using audio-visual materials for teaching in the classroom to increase the interaction between teachers and students. Larsen-Freeman & Anderson (2011) also supported the idea that through the use of technology, learners can be motivated to master all four language skills.

The study, conducted by Smith (2010), stated that applying VAK (Visual Auditory and Kinesthetic) learning styles in a class to accommodate the students’ learning style achievement in English speaking classes. Supiyati (2011) also showed the use of audio-visual aids in improving the speaking skills of learners.

The present study focuses on the development of reading skills of the young EFL learners in an institution where mainstream education is given by using traditional textbooks distributed by the government run organization. This is to understand what impact the audio-visual materials can create on the young learners in Bangladesh who are used to read and memorize only for learning a foreign language namely, English.

3. Theoretical Framework

This study is theoretically linked with Behaviorist theory and VAK learning style theory respectively.

3.1 Behaviorist Theory

Behaviorism believes in a process of mechanical habit formation of the human being for learning anything. This is a very effective and proven process for human language development because it incorporates the steps or parameters like stimuli, reinforcement, reward as well as punishment which can engage a man deeply to change their behavior. Weiss & Rosales-Ruiz (2014) emphasize ‘Operant conditioning’ is important for learning as it is a major part of behaviorism which is all about learned and reinforced behavior and, therefore, something is learned through reward or punishment.

The way infants develop oral language can be explained from Behaviorist point of view. They learn it from other human role models through a process involving stimulation/modeling, imitation, rewards, punishment, and practice. (Reutzel, 2015, p. 38).

Both Operant conditioning techniques and classical conditioning techniques could have been also applied in education sector to shape the students’ behavior in classroom. If they can communicate perfectly in English and can accomplish a good command of it, it will be source of motivation for them that could be considered as a reward. Through this technique, students will understand the task and will be interested to analyze the comprehension. Here audio-visual materials function as stimuli that reinforce the students’ to response their performance. Similarly, teachers can raise students’ attention through audio-visual materials such as, by playing music, watching movie and asking the questions.

“While students are reading, the teacher rings a bell when every bold word is read. Soon students will begin to tap their pencil whenever a bold word is read, in addition to all the instances of ‘the’. This activity shows how quickly classical conditioning can take effect” (Leonard, 2018).

3.2 VAK Learning Theory

VAK learning style theory is designed to describe how distinct types of learners process information. The VAK learning style was pioneered in 1987 by Neil Fleming. VAK stands for visual, auditory, and kinesthetic (tactile). The theory tries to establish that learners usually prefer to learn through any of these sense channels (UK Essays, 2018).

The use of an audio-visual system in the classroom makes the learners much quicker to get the information. As the information is visually presented in front of them it is remembered for a long time and they can connect the visual image with the real object. Huda (2015) states that visual, auditory, and kinesthetic learning styles (VAK) are multi-sensory learning styles that involve three elements of learning style: sight, hearing, and movement. This model seeks to combine these three components in developing students’ skills in learning activities.

Visual ways create scope to learn through seeing which can be done best by presenting visual displays. Displaying pictures, images, videos, graphics, and even the teacher's activities may be included in it to see how the learners respond to them.

Auditory ways inspire to learn from listening that may include recorded speech or music, song, and sometimes teacher's lectures. Students can easily involve in auditory stimuli that help them to read fluently and oral presentations. They can understand the intonation, stressed, and unstressed sound, rhythm and make them correct from hearing those auditory materials.

Kinesthetic learning means learning through moving, doing and touching. Here, learners prefer learning from physical approach or take information from movement. They can observe or feel the incidents by touching. It can be an imitation process in which students learn through imitation or practice with the teacher.

These two theoretical foundations make the learners more active and increase their interest in the classroom.

4. Materials and Methods

This was an experimental type of research and adopted a pre-test and post-test on reading. Both Quantitative and qualitative approaches have been applied in this research. Participants have been chosen from the students of grade 4 and 5 from Tutpara Government Primary School of Khulna Sadar area. This area has been selected purposively for its central location and an easy access of the researchers to that place.

4.1 Participants

A total of 35 students were selected randomly from grade 4 and 5 as the participants of this research to observe and find out their reading capacity and learning process. Treatment was given for three months by applying audio-visual materials in the classroom.

4.2 Instrumentation

Three methods were used for collecting data in this research; these were observation, pre-test and posttest of reading. Through this process the researcher finds out the impact of using audio-visual materials on the students' reading skills and identified the changes after treatment class.

4.3 Procedure

The researchers gave a reading test before conducting the experimental class for the post-test. They answered some questions on multiple choices; filling in the gaps, matching, synonymous words, vocabulary, etc. After the pre-test, the researchers took a three-month long treatment to experiment on their achievement by using audio-visual materials. Finally, a post-test was given to find out student's development or changes after giving treatment. The test contained four different sectors and another segment the oral test had been added after post-test activities to see the result of their reading capacity.

4.4 Data Collection Technique

In this research, the quantitative and qualitative data were collected through:

- Observation
- Pre-test – post-test results
- Reading test by using audio-visual materials in the classroom

4.4 Observation

Observation was the first process for this experimental research. At first, the researcher observed the teaching and learning system in the school and students' learning capacity as well as their eagerness to follow the traditional system. Before applying the audio-visual materials in the classroom, a pre-test was given and conducting the classes was started by using those materials. To apply this treatment to students, they were observed in every class and data of the observation was recorded. It was observed whether the students were interested or not to attend the class, and how they were enjoying and responding to the system.

Figure 1 shows the researcher's role in the classroom while observing the teaching and learning techniques, students' behaviour or attendance.



Figure 1. A researcher in the class

4.4 Pre-test and Post-test Design

The test was a process to measure the learners' understanding levels and skills in a particular issue through some oral or written procedures. In this experimental research design, testing was also needed to collect the data on students' reading comprehension skills by applying audio-visual materials in the classroom.

Before taking the treatment class, the participants attended a pre-test that revealed the student's ability in reading comprehension. The pre-test consisted of 5 different items with true/false, multiple-choice questions, matching etc. It was arranged to know about the level of performance of the students in the pre-treatment condition. After the pre-test, the students were under the treatment class for three months through using new technology means the audio-visual materials. Audio-visual materials were used in the classroom; students watched videos and listened to audio clips. A laptop and an overhead projector were used in the classroom to display some videos, and images with audio clips. The students wrote down the unknown words from the videos and the researchers solved the problems if they faced any like helping them to understand the meanings of the words or to pronounce them. After teaching a comprehension there had some question-answer sessions for practice.

Figure 2 shows students when they are taking the test in the classroom. Appendix A shows the questions for the pre-test.



Figure 2. Students are taking the test

Finally, to see the result of their condition after conducting the treatment class by using audio-visual materials, the post-test was given to compare their performance on two different tests. The post-test consisted of four different items like fill in the gaps, multiple choice questions, and word meaning. Both the pre and post-test were given of 20 marks. Appendix B shows the questions for the post-test.

4.5 Student's Reading Test

It was kind of oral test that students were assigned to read aloud a particular comprehension individually in order to understand their reading ability. This segment bearing 10 marks was added after completing the posttest. The test was given in sound proof room for recording the student's voice. They had read out the selected passage which had been recorded with the help of an audio recorder. The purpose of this segment was to see the students' improvement in reading skills and to measure their fluency, pronunciation, punctuation as well as intonation during reading a passage.

4.6 Variables in the Study

Variables in the study include independent and dependent.

Independent variable. The audio-visual materials were an independent variable in this research.

Dependent variable. The improvement of their reading skills is considered as dependent variable

4.7 Data Analysis

In data analysis the researchers found out the differences between pre-test and post-test through collected data. The effect of using technology in the treatment class was deeply analyzed from observation. To compare the before-after test result, t-test formula was applied.

5. Results and Discussion

5.1 Pre-test and Post-test Frequency

Table 1 shows the average scores of the students in the pre-test as well as in the post-test. The mean values of the pre-test of 35 students was 9.94 and the mean values of the post-test which was conducted after using audio-visual materials in the classroom is 17.09. The increase in mean scores from the pre-test to the post-test (9.94 to 17.09) suggests that, on an average, students performed better after being exposed to audio-visual materials in the classroom.

Table 1. Student's Mean Score

Mean Values of Student's Performance	Pre-test	Post-test
	9.94	17.09
Max	16.5	20
Min	5	8

In pre-test the minimum score was 5 that increased in post-test into 8. Similarly, in pre-test the maximum score of student was 16.5 that increased in post-test into 20. The overall pattern of results suggests a significant positive change in student performance between the pre-test and post-test. The utilization of audio-visual materials in the classroom appears to have a positive impact on students, as evidenced by higher mean scores and a broader distribution of scores in the post-test.

Pre-test Frequency: It was a sudden test to see the student's basic skills of reading in pre-action stage before they were under the treatment classes

Table 2 displays the number of students who obtained specific scores in the pre-test conducted before using audio-visual materials in the classroom. For instance, 7 students scored 9, 6 students scored 11, and so on.

Table 2. Range of pre-test score

Pre- test Frequency	
Obtained Scores	Number of Students
5	1
6	2
6.5	1
7	2
8	3
9	7



10	4
11	6
12	5
13	1
14	2
15	0
16	0
16.5	1

Low Scores: The presence of scores such as 5, 6, and 7 indicates that a portion of students initially performed at a relatively lower level in the pre-test.

Average Scores: The range from 8 to 13 suggests that a considerable number of students achieved scores around the average range. The concentration of scores in the 8 to 13 range suggests that the majority of students attained scores within this average band during the pre-test.

Higher Scores: The absence of scores beyond 14 implies that only a few students initially performed exceptionally well.

Post-test Frequency: The test was given after completing the treatment class using audio-visual materials. The test was administered in the same question format as had been used in the pre-test.

Table 3 displays the number of students who obtained specific scores in the post-test. For instance, 15 students scored 20, 5 students scored 19, four students scored 16, three students scored 12 and 2 students scored 18 and so on.

Table 3. Range of post-test score

Post- test Frequency	
Obtained Scores	Number of Students
8	1
9	1
10	1
11	0
12	3
13	2
14	1
15	0
16	4
17	0
18	2
19	5
20	15

Low Scores: No student scored such as 5, 6, and 7 which indicate that no student performed at a relatively lower level in the posttest.

Average Scores: The range from 8 to 13 suggests that a considerable number of students achieved scores around the average range. The concentration of scores in the 8 to 13 range suggests that some of students attained scores within this average band in the posttest.

Higher Scores: Many students scored in the range of 16 to 20. A notable proportion of students achieved the highest score of 20 in the posttest.

It can be assumed that in the post-test stage, students' scores were increased significantly because the teaching process helped the students to learn spontaneously and to learn with amusement. They were more active and cheerful when the visuals were shown on the screen. The results of post-test also show the improvement that most of the students earned the highest score. They were equally calculated in 20 marks as in the pre-test. These significant differences between the pre-test and post-test show that the hypotheses are accepted. It can be shown in the pie charts given below (figure 3).

The figure shows the students' pre-test frequency result before applying audio-visual materials in the classroom. In this stage, 20% of total 35 students obtained average marks which is 09 and 17% students obtained 11 out of 20. 11% students comparatively got less marks in the pre-test.

Pre-test Frequency

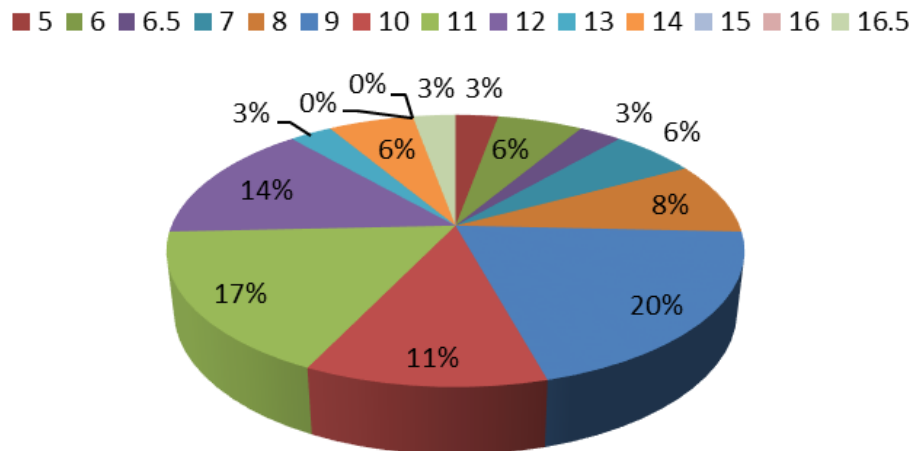


Figure 3. Pre-test Frequency

Figure 4 illustrates the percentage of students’ post-test frequency result which shows a large number of students, almost 43% of total 35 students, obtained the highest scores of 20. And 14% of the students obtained 19. Most of the students have the higher level of attention and only 3% of the students scored comparatively poor. It clearly depicts that overall students have performed well and improved their scores in comparison to pre-test scores and the use of audio-visual materials helped them in a considerable amount.

Post - Test Frequency

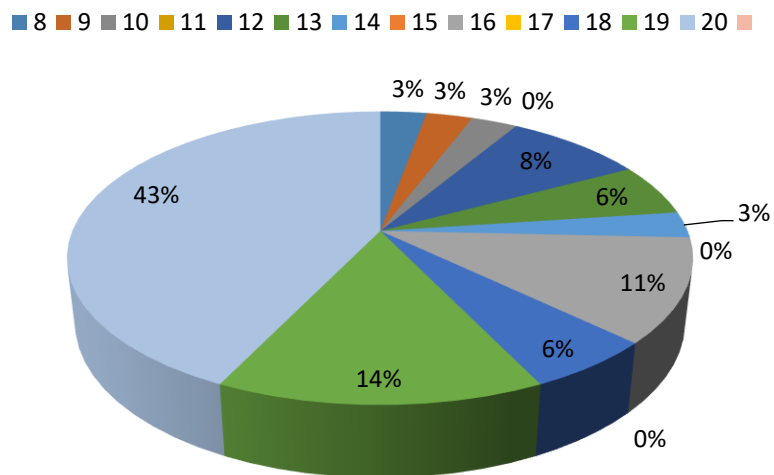


Figure 4. Post-test Frequency

The pie charts, Figure 3 and Figure 4, visually represent the distribution of students' scores in the pre-test and post-test stages, respectively. A significant portion (20%) of students obtained average marks (9 out of 20) in the pre-test. 17% with above-average scores where a substantial proportion (43%) of students achieved the highest scores of 20 in the post-test. A notable percentage (17%) scored 11 in pre-test, indicating above-average performance where in post-test a significant percentage (14%) obtained 19, indicating a high level of proficiency in reading skill. A notable percentage (11%) scored comparatively lower marks in the pre-test where only 3% of students obtained comparatively lower scores in the post-test.

Remarkable Improvement: In summary, the pie charts provide a clear visual representation of the shift in student performance from the pre-test to the posttest. The post-test pie chart demonstrates a significant shift towards higher scores, particularly with 43% achieving the



maximum score. The clear increase in percentages for top scores suggests that the use of audio-visual materials in the classroom contributed to improve student's reading skill.

5.2 Results of Observation

From the result of students' reading test, it can be concluded that there were 22 participants who read out the particular passage. On the basis of their performance, they were categorized into three distinctive grades – good, medium and low. Through this oral test, researcher observed their pronunciation, punctuation, fluency and intonation. In table 5, the mark (□) sign indicates the students' accuracy that there had no notable mistakes in their performance. The rest of the students made some mistakes in pronunciation and punctuation. In another segment of fluency and intonation they were categorized in three different ways. The students who achieved the higher range of scores 7 to 10 out of 10, they obtained "good" grade. In this way, 4 to 6 scores students categorized in "medium" level and below 4 scores students graded in "low" level. Table 4 shows the analysis of students' reading test.

Table 4. Students' Reading Test

Number of participants	Observed mistakes during the student's reading			
	Pronunciation	Punctuation	Fluency	Intonation
Participant 1	1	✓	good	good
Participant 2	✓	✓	medium	medium
Participant 3	✓	✓	good	good
Participant 4	✓	1	medium	medium
Participant 5	6	2	medium	medium
Participant 6	6	1	low	low
Participant 7	2	1	low	medium
Participant 8	2	2	good	good
Participant 9	3	1	medium	good
Participant 10	2	2	medium	medium
Participant 11	2	2	medium	medium
Participant 12	✓	✓	good	good
Participant 13	3	2	medium	medium
Participant 14	4	2	low	medium
Participant 15	1	✓	good	good
Participant 16	2	1	low	low
Participant 17	2	1	good	medium
Participant 18	1	2	medium	low
Participant 19	✓	✓	good	good
Participant 20	1	✓	good	good
Participant 21	7	3	medium	medium
Participant 22	3	4	low	low

Further, let's analyze the criteria for the reading test. We considered three criteria. They were the following: good, medium, and low. Table 5 shows the analysis of criteria for the reading test and their range of scores.

Table 5. Criteria for Reading Test

No.	Range of Scores	Criteria
1	7-10	good
2	4-6	medium
3	0-3	low

5.3 Hypothesis Testing

The hypothesis is tested by comparing the pre-test and post-test data on particular task which are displayed in Table 6.

Table 6. Analysis of t-test of Students' performance

t-Test: Paired Two Sample for Means		
	Pre-test condition	Post-test condition
Mean	9.94	17.09
Variance	6.335	13.846
Observations	35	35
Hypothesized Mean Difference	9.94	17.09
Df	34	
T Stat		11.32
P(T<=t) one-tail		0.000
T Critical one-tail		1.69
P(T<=t) two-tail		4.44
T Critical two-tail		2.032

Table 6 shows that the mean result for pre-test is 9.94 and for post-test, it is 17.09. The pre-test mean reflects scores before using audio-visual materials, and the post-test mean reflects scores after three months of using such materials. The mean value of t-test basically stands for average score. So, this result shows that use of audio-visual materials has increased the average score of the students. The table also shows that the variance of the scores of the pre-test is 6.335 increasing to 13.846 in the post-test. It implies higher deviations from the mean. It could be assumed that the variability of the scores have increased due to the treatment with the audio-visual materials. The results of the post-test show a comparatively lower number of students scoring less than 10, comparatively higher number of students scoring 10-19, and a good number (15) of students scoring full marks (20). The implication is that the use of audio-visual materials has brought a significant change on an average in the reading performance of the students.

According the rules of t-test:

- If the P-value is below the conventional significance level of 0.05, it signifies a noteworthy distinction between the mean values. This means that there is a substantial variation in student's performance before and after using audio-visual materials in the classroom.
- If the P-value exceeds the established significance level of 0.05, the null hypothesis will be accepted which indicates that there is no substantial variation in student's performance before and after using audio-visual materials in the classroom.

From the table, we can see that the P-value for one tailed form of t-test is 2.22134E i.e. 0.000 level of significance which is less than 0.05 and the P-value for two tailed t-test is 4.44267E-13 or 0.000 which is also less than 0.05. So, P-values for both one-tailed and two-tailed t-tests are less than 1% level of significance. Therefore, according to the rule of t-test the result of the t-test of pre-test and post-test signifies a noteworthy distinction between the mean values. This means that there is a substantial variation in student's performance before and after using audio-visual materials in the classroom.

The result implies that the mean difference of t-test is statistically significant at 1% level. Post condition of using audio-visual materials improved the reading skills significantly.

As the P-value of the test (4.44267E-13) is less than the standard significance level of 0.05, the researcher can reject the null hypothesis because the hypothesis is proved.

5.4 Research Findings

The study aimed to compare students' performance before and after using audio-visual materials in the classroom. The results were analyzed using a t-test, and here are the key findings.

- It was observed that the students enjoyed the screen images, videos and the sound for learning the lessons in the class room.
- Before applying those materials, they were not too much active and did not pay proper attention to their task.
- Students were found more active and could easily understand the lesson during three months treatment class.

- Audio-visual materials are proved to be very effective in stimulating and facilitating the foreign language learning process (Cakir, 2006). In the study, it was found that students were more enthusiastic in language class with the use of audio-visual materials as it encourages them to stay focused, and they can relate their learning to their real life.
- In the pre-test, students on average scored 9.94 and in the post-test after using audio-visual materials in the classroom, they scored 17.09. This suggests that students performed better after experiencing audio-visual aids in their learning and they are very effective for increasing student's reading skill.
- The t-test results show that there is a substantial improvement in student performance when using audio-visual materials in the classroom. That means audio-visual materials are very effective for increasing student's reading skill.
- In the post-test the students made lesser mistakes (✓) in pronunciation and punctuation. Only few students had medium or low performance levels in reading comprehension skills.
- The results suggest a significant positive change in student performance from the pre-test to the post-test. Therefore, students, on an average, showed improvement after being exposed to audio-visual materials in the classroom. It is evident that students did better after the treatment class with audio-visual materials. The average scores went up, and there is a noticeable improvement across the range of scores, indicating positive effect of using audio-visual materials in the classroom.
- The shift from the pre-test to the post-test in higher scores, especially with 43% of the students' achieving the maximum score (20 out of 20), highlights the positive effect of audio-visual materials on students' overall improvement in reading skills.

So overall, the finding shows that the use of audio-visual materials in classroom can increase their reading skills and accelerate them to be more active.

5.5 Implications of the Study

- The findings suggest that incorporating audio-visual materials in the classroom enhances student engagement and attention. Educators can consider integrating multimedia elements to create a more interactive and dynamic learning environment.
- The study indicates a significant improvement in students' reading skills after exposure to audio-visual materials. Teachers and curriculum designers may consider incorporating multimedia content to improve reading proficiency.
- The positive impact observed after three months of using audio-visual materials implies that continuous implementation is beneficial. Schools and educators should integrate multimedia elements into their regular teaching practices.
- The oral test results highlight the importance of focusing on pronunciation and punctuation. Language instructors should design activities or lessons that specifically address these aspects to enhance overall language proficiency.

5.6 Recommendations

Based on the findings of this study, researcher has some recommendations to develop the students' language skills:

- To maintain students is difficult if the teacher does not follow any technique or creativity in the classroom. To grab their attention teacher should be more careful and creative.
- For arranging a multimedia classroom all the necessary materials are required, so materials should be available always.
- The teacher should assure that the multimedia classroom is free from any chaos and sound proved so that students can listen carefully and give proper attention.
- During English class, L1 interference should be avoided as much as possible
- Teacher should continue the process of using audio-visual materials in the classroom
- Teacher also should participate in the activities with the students while using the materials
- Students should practice more and more on comprehension to increase the fluency.

5.7 Limitations of the Study

The research is a small scale study. A larger number of sample could have been more convincing. Another limitation of the study is that no control group has been formed in the experiment. The presence of a control group could open scope for comparison of the experiment and the control group. It could reveal the impact of the audio-visual materials in a more realistic way. Due to the scarcity of class-schedule and other technical support the range of the study has been limited.

6. Conclusions

The use of technology in classroom has tremendous significance in learning a language. Students have learnt with joy and were more active. Audio-visual materials supported students to learn the particular lesson. After three months treatment class, they were able to read English text comparatively fluently. The objectives of the study were to find out the impact of audio-visual materials on reading skills development in primary level students and the result of posttest shows the significant improvement as well as their performance in the classroom. The pre-test and posttest mean score has been increased from 9.94 into 17.08 that indicate that, the treatment was significant for students by using those audio-visual materials in classroom. More than half of the students obtained highest scores in posttest. The hypothesis of the study was to find out the students' capacity to accomplish reading and its micro skills, and recover their weaknesses if regular accesses of audio-visual materials are entered in the class that has been proved and it can be said that using audio-visual materials develops young EFL students' reading skill significantly.

In Bangladesh, generally primary school students are habituated to their board-suggested textbooks which is mainly based on chalk and talk approach. But in a digital era, the process of teaching system should be changed and teachers should make them familiar with these new trends and technologies by using audio-visual materials in classroom. But technologies are not properly used at school because of the paucity of audio-visual teaching resources. Sometimes students become bored with their regular classes. So, these materials can be a good solution to the problems related to reading skills in Bangladesh as well as to any EFL context.

Supplementary Materials & Data availability statement: Figures, Tables, Videos

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Appendix A. Question for Pre-test.

Name: _____

Class: _____

Date: _____

Reading Comprehension Test

Time: 1 hour

Marks: 20

Directions: Read the passage. Read each question and mark or write the correct answer.

Read the text carefully:

Hello, this is Mita. I live in Khulna. I live in a house with my father, mother and brother. I am nine years old and I read in class four. Yesterday was my birthday. On my birthday, my father bought me a mango tree as a birthday gift. I was very happy to get it from him because I know that tree is our true friend. Trees are the main source of Oxygen. We cannot live without oxygen. It also helps in absorbing dust and other pollutants from the air and keeps it clean. Every part of a tree is useful to us. So it is undoubtedly a very precious gift for me.

Next day, I along with my father planted the tree in front of our house I was so excited to do that. After planting it, my father put a fence around it. I water the tree every morning.

A. Choose True or False:

Mita is from Khulna

True

False

She is 9 years old

True

False

Trees help in absorbing Oxygen

True

False

Her father bought her a banyan tree

True

False

B. Choose the correct answer from the option

I. How many members are there in Mita's family?

a) 3

b) 4

c) 5

d) 2

II. Mita's father bought her a _____

a) book

b) doll

c) cake

d) mango tree

III. Which one is not true?

- a) Trees give us Oxygen
- b) Trees keep in absorbing pollutants
- c) Trees Keep the water clean
- d) Trees give us fruits

IV. Who helps in absorbing dust?

- a) Air
- b) Tree
- c) Oxygen
- d) Mita

C. Answer the questions:

- 1) In which class does Mita read in?
- 2) Why did her father give her a mango tree?
- 3) How does tree keep clean the air?
- 4) What does tree do to us? Write 3 (three) sentences on it.

D. Find out the following words in the passage and underline them

- a. Eight
- b. Absorbing
- c. Dust
- d. Undoubtedly
- e. Pollutant
- f. Friend
- g. Planted
- h. Excited

E. Match the words with the parts in the opposite box:

i. Gift	a) Happy
ii. Absorbing	b) Enclose the area
iii. Dust	c) Put seeds in ground
iv. Excited	d) Powdery substance
v. Friend	e) Harmful substance
vi. Planted	f) Present
vii. Fence	g) Source
viii. pollute	h) Keep
	i) A close relationship
	j) Take up

Appendix A. Question for Post-test.

Name:

Class:

Date:

Reading Comprehension Test

Time: 30 min

Marks: 20

Directions: Read the passage. Read each questions and mark or write the correct answer

Read the text carefully:

Hello, I am Sakib. I live in Dhaka. Last February I went on a visit to the Bangla Academy Book Fair along with my parents and younger brother. It is the biggest and most gorgeous book fair in the country. Bangla Academy Book Fair is organized every year. I also visit a book fair organized in my city because I am a book lover. I have read a lot of books so far. Most of them are bought from the book fair. Whenever I get some time, my first priority is to read books. Reading has improved my thinking pattern, understanding and knowledge. There were thousands of visitors coming to the Fair. There were rows of bookstalls beautifully decorated in the Fair. The premises of Bangla Academy took a festive look. We visited a lot of stalls and bought a number of books: there were storybooks, science fiction, and autobiographies. My father is particularly fond of autobiographies and he suggests we read these books. My younger brother and mother bought some books for the children. The popularity of book fairs is increasing day by day with the advancement of civilization.

A. Choose the correct answer from the option:

1. Where does Sakib live in?
 - a. Khulna
 - b. Dhaka
 - c. Sylhet
 - d. Rangpur
2. Where did Sakib go last February?
 - a. Dhaka National Zoo
 - b. Bangla Academy Book Fair
 - c. Lalbagh Kella
 - d. Sonargoan
3. There were thousands of visitors coming to _____
 - a. the programme
 - b. the Fair
 - c. the village Fair



4. Which one is not correct?
 - a. Sakib is a book lover
 - b. Sakib does not want to read any book
 - c. Sakib reads a lot of books
 - d. His first priority is to read books

B. Answer the questions:

1. What is the name of the book fair?
2. By whom is it organized?
3. What is the importance of a book fair?
4. What types of books are available at the fair?

C. Find out the following words in the passage, underline them and guess their meanings:

Book lover, Autobiography, Decorative, Premises, Priority, Gorgeous, Festive, Civilization