



# TLE AUDIO-VISUAL: EFFECT ON STUDENTS MOTIVATION AND PERFORMANCE

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## ABSTRACT

The study aimed to determine the effect of integration of TLE audio-visual in remedial activity of Grade 7 students. The study sought to determine the level of acceptability of audio-visual content, features, students' motivation, and performance. Also, the significant effect of TLE audio-visual content and features on grade 7 students' motivation and the significant difference between the students' performance in the formative and summative were identified.

The research design employed was a pre-experimental design, specifically the one-shot case study design. The respondents of the study comprised 10 TLE teachers from the Bay Sub-Office, who validated the TLE audio-visual. The participants in the remediation program consisted of a total of 80 Grade 7 students. A researcher-made checklist questionnaire was employed as part of the instrument for data gathering in validating the audio-visual, while the formative and summative test were used to determine the effectiveness of the approach.

The following statements are the findings that were formulated: The level of acceptability of the components of the audio-visual content including objectives, sequence, language usage, and inclusivity, was rated as highly acceptable. The acceptability level of the features of the audio-visual varied. Visual effects were rated as acceptable, whereas audio, resolution, and design were all rated as highly acceptable. The level of students' motivation in terms of learning relevance, use of time management, and developing self-discipline were also acceptable. In the students' learning outcomes, the formative test results were very satisfactory while the summative test results were outstanding. The audio-visual content and features to the students' motivation among Grade 7 students significantly affects the outcome variable. Lastly the integration of audio-visual of Grade 7 students has a significant positive effect on students' performance of the Grade 7 students. The TLE audio-visual is effective indicating that there is a significant effect of audio-visual content and features to grade 7 students' motivation and at the same time there is a significant difference between the students' performance in the formative and summative test leading to rejection of both hypotheses. The researcher encourages the development and utilization of audio-visual materials by teachers within the teaching and learning process, aimed at addressing learning gaps observed in specific subject areas.

**KEYWORDS:** integration; TLE audio-visual; remedial activity

## 1. INTRODUCTION

The motivation of the students to learn is critical since it affects the attainment of best possible learning outcome. They may lack enthusiasm to learn as they pay little attention to learning activities whenever there is a failure in the use of instructional media thus they will gain less than the optimal knowledge.

Competent teachers are good in creating effective learning environment to motivate learners (Yunos 2020). Pardjono et al. (2018) vocational education equips learners with various competencies, including information technology skills, which are essential for their employment prospects. The 21st century teachers face new technological education challenges (Akturk and Ozturk, 2019) the students are well-equipped with (Mangubat, 2022).

TLE (Technology and Livelihood Education) is one performance-based discipline that requires a live demonstration. Technology has become increasingly significant in education such as videos and audio visuals. However, it is said to be a potent educational instrument that can also boost the learning rate which in the literature this approach gained little attention (Temple, 2022).

In Grade 7, when students are at a pivotal point in their educational journey, navigating the complexities of academic obstacles requires creative techniques to reinforce their core

learning. This study explores a customized intervention that incorporates audio-visual exercises with remedial activities to address the varied learning demands of the cohort. The goal is not only to augment conventional teaching strategies but also to transform remedial sessions into engaging, multimodal learning environments that target academic challenges experienced by students in Grade 7.

It becomes clear how important it is for students to grasp foundational concepts as they move from basic to more advanced education. Understanding that not all learners will benefit from traditional remedial methods, this study investigates the possibilities of audio-visual. The significance of grasping foundational concepts becomes evident as students move through the critical transition from elementary to higher education levels. This study investigates the possibilities of audio-visual rehabilitation since it is acknowledged that traditional remedial methods may not always be effective for all learners.

The distinctiveness of this research lies in its specificity. By meticulously examining academic records, considering teacher insights, and incorporating student feedback, precise stumbling blocks in the Grade 7 curriculum are pinpointed. The objective extends beyond the mere introduction of technology into the classroom; rather, envisioning technology as a targeted tool to address and overcome identified academic challenges. Through a blend of theoretical frameworks and empirical investigations,



this inquiry aims to provide concrete evidence supporting the transformative potential of audio-visual interventions in remedial education for Grade 7 students.

Ultimately, this research on TLE Audio-Visual: Effect on Students Motivation and Performance seeks to contribute more than just insights; it aspires to lay the foundation for future remedial strategies, fostering not only enhanced academic proficiency but also a sense of confidence and empowerment among Grade 7 learners. Thus, the researcher intends to pursue the study to delve deeper into the effect of the audio-visual exercises used in the remedial activity in improving the performance of the Grade 7 students.

**1.1 Statement of the Problem**

Specifically, the study will seek to answer the following:

1. What is the level of acceptability of TLE audio-visual content in terms of:
  - 1.1 objectives;
  - 1.2 sequence;
  - 1.3 language used; and
  - 1.4 inclusivity?
2. What is the level of acceptability of TLE audio-visual features in terms of:
  - 2.1 visual effect;
  - 2.2 audio;
  - 2.3 resolution; and
  - 2.4 design?
3. What is the level of students' motivation while using TLE audio visual in terms of:
  - 3.1 learning relevance;
  - 3.2 use of time management; and
  - 3.3 developed self-discipline?
4. What is the level of students' performance in written test in terms of:
  - 4.1 formative test; and
  - 4.2 summative test?
5. Is there a significant effect of TLE audio-visual content and features to grade 7 students' motivation?
6. Is there a significant difference between the students' performance in the formative and summative test?

**2. METHODOLOGY**

The study utilized a pre-experimental design, specifically the one-shot case study design. Pre-experimental design includes

one or more experimental groups to be observed against certain treatments. It is the simplest form of research design that follows the basic steps in experiments. This design was chosen as it best suited the current research study, where one group of students was exposed to audio-visual material as a remediation tool.

One-shot case study design involves studying a single group at a single point in time after applying a treatment presumed to cause change. The carefully studied single instance is compared to general expectations of what the case would have looked like had the treatment not occurred and to other events casually observed. No control or comparison group is employed (Mauldin, 2020).

**3. RESULTS AND DISCUSSION**

The data were analyzed and interpreted so that conclusions and recommendations could be drawn.

**Level of Acceptability of TLE Audio-Visual Content**

The level of acceptability of TLE audio-visual content in terms of objectives, sequence, language used, and inclusivity was treated statistically using mean and standard deviation.

Table 1 shows the level of acceptability of audio-visual content in terms of objectives. Also shows the statements, mean, standard deviation and remarks.

The validators strongly agree that the objectives are relevant to the topics covered in the curriculum guide. (M = 4.60 and SD=0.52) showing a high level of acceptability of audio-visual content in terms of objectives. On the other hand, the validators agree that the objectives are attainable. While the mean and standard deviation are slightly lower (M = 4.20 and SD = 0.63), it still indicates a high level of acceptability of audio-visual content in terms of objectives.

The level of acceptability of audio-visual content in terms of objectives attained a weighted mean score of 4.36 and a standard deviation of 0.53, verbally interpreted as *highly acceptable* among the respondents.

This implies that audio-visual is generally well-accepted by validators in terms of achieving educational objectives. These exercises offer numerous advantages, such as increased student engagement, improved understanding of complex concepts, and flexibility in learning.

**Table 1 Level of Acceptability of Audio-Visual Content in Terms of Objectives**

The objectives...	MEAN	SD	REMARKS
...are relevant to the topics covered in the curriculum guide.	4.60	0.52	Strongly Agree
...are specific and clearly stated.	4.40	0.52	Strongly Agree
...are attainable.	4.20	0.63	Agree
...are measurable.	4.30	0.48	Strongly Agree
...are Time-bound	4.30	0.48	Strongly Agree
Weighted Mean	4.36		
SD	0.53		
Verbal Interpretation	Highly Acceptable		



Table 2 shows the level of acceptability of audio-visual content in terms of sequence. Also shows the statements, mean, standard deviation and remarks.

The validators strongly agree that the sequence of the lesson follows the procedures of the teaching-learning process. (M = 4.50 and SD=0.53) conclude a high level of acceptability of audio-visual content in terms of sequence. On the other hand, the validators agree that the sequence follows a logical progression, guiding learners through the content in a coherent and understandable manner. While the mean and standard deviation are slightly lower (M = 4.10 and SD = 0.57), it still indicates a high level of acceptability of audio-visual content in

terms of sequence.

The level of acceptability of audio-visual content in terms of sequence attained a weighted mean score of 4.34 and a standard deviation of 0.56, verbally interpreted as *highly acceptable* among the respondents.

This implies that audio-visual laboratory exercises are generally well-accepted by validators in terms of learning sequence. The learning contents of the audio-visual materials must be complete to attain the purpose of the materials, ensuring comprehensive understanding and engagement from the audience.

**Table 2 Level of Acceptability of Audio-Visual Content in Terms of Sequence**

The sequence ...	MEAN	SD	REMARKS
... of the lesson follows the procedures of the teaching-learning process.	4.50	0.53	Strongly Agree
... of concepts is based on an inductive approach.	4.30	0.67	Strongly Agree
... is carefully structured to facilitate comprehension and retention of key concepts.	4.40	0.52	Strongly Agree
... of ideas integrates scaffolded learning activities to support gradual skill development and deeper understanding.	4.40	0.52	Strongly Agree
... follows a logical progression, guiding learners through the content in a coherent and understandable manner.	4.10	0.57	Agree
Weighted Mean	4.34		
SD	0.56		
Verbal Interpretation	Highly Acceptable		

Teaching materials have helped students to retain knowledge better thereby making learning to be permanent; it enables students to retain and recall what they have learned. The inculcation of teaching materials helps students to experience concepts virtually which results in making lessons explicit to the students and expanding their horizon of experience (Mensah, 2022).

Table 3 shows the level of acceptability of audio-visual content in terms of language used. Also shows the statements, mean,

standard deviation and remarks.

The validators strongly agree that the language used follows the medium of instruction in TLE. (M = 4.70 and SD=0.48) indicate a high level of acceptability of audio-visual content in terms of language used. On the other hand, the validators also strongly agree that the language used is suitable for the learners and language used in the audio-visual content is effectively delivered. While the mean and standard deviation are slightly lower (M = 4.50 and SD = 0.53), it still indicates a high level of acceptability of audio-visual content in terms of language used.

**Table 3 Level of Acceptability of Audio-Visual Content in Terms of Language Used**

The language used ...	MEAN	SD	REMARKS
...is suitable for the learners.	4.50	0.53	Strongly Agree
...is easy to understand.	4.60	0.52	Strongly Agree
...in the audio-visual content is effectively delivered.	4.50	0.53	Strongly Agree
...avoids unfamiliar words for the students.	4.60	0.52	Strongly Agree
...follows the medium of instruction in TLE.	4.70	0.48	Strongly Agree
Weighted Mean	4.58		
SD	0.51		
Verbal Interpretation	Highly Acceptable		

The level of acceptability of audio-visual content in terms of language used attained a weighted mean score of 4.58 and a

standard deviation of 0.51, verbally interpreted as *highly acceptable* among the respondents.



This implies that audio-visual is generally well-accepted by validators in terms of language used. To have an effective tool for remediation, the language used must accurately match the

proficiency level of the learners to ensure their understanding of the content in the audio-visual materials.

**Table 4 Level of Acceptability of Audio-Visual Content in Terms of Inclusivity**

The audio-visual material...	MEAN	SD	REMARKS
...presents lessons which are based on real-life situations.	4.30	0.48	Strongly Agree
...provides activities suited to the objectives of the lesson.	4.60	0.52	Strongly Agree
...includes exercises that assess objectively the level of knowledge of the target learners.	4.70	0.48	Strongly Agree
...takes considerations to the varying attitudes and capabilities of learners.	4.70	0.48	Strongly Agree
...is based on the K-12 curriculum.	4.60	0.52	Strongly Agree
Weighted Mean	4.58		
SD	0.50		
Verbal Interpretation	Highly Acceptable		

Table 4 shows the level of acceptability of audio-visual content in terms of inclusivity. Also shows the statements, mean, standard deviation and remarks.

The validators strongly agree that the audio-visual material includes exercises that assess objectively the level of knowledge of the target learners and the audio-visual material takes considerations to the varying attitudes and capabilities of learners. (M = 4.70 and SD=0.48) conclude a high level of acceptability of audio-visual content in terms of inclusivity. On the other hand, the validators also strongly agree that the audio-visual material presents lessons which are based on real-life situations. While the mean and standard deviation are slightly lower (M = 4.30 and SD = 0.48), it still indicates a high level of acceptability of audio-visual laboratory exercises content in terms of inclusivity.

The level of acceptability of audio-visual content in terms of inclusivity attained a weighted mean score of 4.58 and a standard deviation of 0.50, verbally interpreted as *highly acceptable* among the respondents.

This implies that audio-visual laboratory exercises are generally well-accepted by validators in terms of inclusivity. To

make audio-visual materials relevant to learners, they should cater to the diverse learning styles of individuals, ensuring that different learners are accommodated effectively.

**Level of Acceptability of TLE Audio-Visual Features**

The level of acceptability of audio-visual features in terms of visual effect, audio, resolution, and design was treated statistically using mean and standard deviation.

Table 5 shows the level of acceptability of audio-visual features in terms of visual effect. Also shows the statements, mean, standard deviation and remarks.

The validators agree that the visual effects like transitions, are smooth and visually appealing. (M = 4.20 and SD=0.63) conclude a high level of acceptability of audio-visual features in terms of visual effect.

On the other hand, the validators also agree that the visual effects include lighting, color grading, visual style, and similar elements, and visual effects are minimal in the audio-visual material. While the mean and standard deviation are slightly lower (M = 4.00 and SD = 0.82), it still indicates a high level of acceptability of audio-visual features in terms of visual effect.

**Table 5 Level of Acceptability of Audio-Visual Features in Terms of Visual Effect**

The visual effects ...	MEAN	SD	REMARKS
...include lighting, color grading, visual style, and similar elements.	4.00	0.82	Agree
...include motion graphics.	4.10	0.88	Agree
...like transitions, are smooth and visually appealing.	4.20	0.63	Agree
...are minimal in the audio-visual material.	4.00	0.82	Agree
...are relevant to the topic.	4.10	0.74	Agree
Weighted Mean	4.08		
SD	0.78		
Verbal Interpretation	Acceptable		

The level of acceptability of audio-visual features in terms of visual effect attained a weighted mean score of 4.08 and a

standard deviation of 0.78, verbally interpreted as *acceptable* among the respondents.



This implies that audio-visual is generally accepted by validators in terms of visual effect. The inclusion of visual effects enhances the appeal of audio-visual materials, a crucial factor to consider in motivating learners to engage with both listening and viewing aspects.

Table 6 shows the level of acceptability of audio-visual features in terms of audio. Also shows the statements, mean, standard deviation and remarks.

The validators strongly agree that the audio has optimal quality while minimizing file size. (M = 4.70 and SD=0.48) indicate a high level of acceptability of audio-visual features in terms of audio. On the other hand, the validators also agree that the audio levels are consistent throughout the video, and audio has no noticeable delay or out-of-sync issues. While the mean and standard deviation are slightly lower (M = 4.40 and SD = 0.52), it still indicates a high level of acceptability of audio-visual features in terms of audio.

**Table 6 Level of Acceptability of Audio-Visual Features in Terms of Audio**

The audio...	MEAN	SD	REMARKS
...levels are consistent throughout the video.	4.40	0.52	Strongly Agree
...ensures that speech, music, or sound effects are clear and easy to understand.	4.60	0.52	Strongly Agree
...ensures that the balance between different audio elements (such as dialogue, background music, and sound effects) is appropriate.	4.50	0.53	Strongly Agree
...has optimal quality while minimizing file size.	4.70	0.48	Strongly Agree
...has no noticeable delay or out-of-sync issues.	4.40	0.52	Strongly Agree
Weighted Mean	4.52		
SD	0.51		
Verbal Interpretation	Highly Acceptable		

The level of acceptability of audio-visual features in terms of audio attained a weighted mean score of 4.52 and a standard deviation of 0.51, verbally interpreted as *highly acceptable* among the respondents.

This implies that audio-visual is generally well-accepted by validators in terms of audio. The auditory components of audio-

visual materials are crucial features, as learners effectively grasp information when the sound is clear and consistent.

Table 7 shows the level of acceptability of audio-visual features in terms of resolution. Also shows the statements, mean, standard deviation and remarks.

**Table 7 Level of Acceptability of Audio-Visual Features in Terms of Resolution**

The audio-visual material...	MEAN	SD	REMARKS
...has 720 to 1080 resolution.	4.30	0.67	Strongly Agree
...does not contain blurry videos.	4.40	0.97	Strongly Agree
...ensures that the video format and codec are compatible with the intended playback devices and platforms.	4.10	0.74	Agree
...has clarity and sharpness of the video image.	4.10	0.88	Agree
...ensures that the frame rate is suitable for the content and provides smooth motion playback.	4.40	0.70	Strongly Agree
Weighted Mean	4.26		
SD	0.79		
Verbal Interpretation	Highly Acceptable		

The validators strongly agree that the audio-visual material ensures that the frame rate is suitable for the content and provides smooth motion playback. (M = 4.40 and SD=0.70) conclude a high level of acceptability of audio-visual features in terms of resolution. On the other hand, the validators agree that the audio-visual material has clarity and sharpness of the video image. While the mean and standard deviation are

slightly lower (M = 4.10 and SD = 0.88), it still indicates a high level of acceptability of audio-visual features in terms of resolution.

The level of acceptability of audio-visual features in terms of resolution attained a weighted mean score of 4.26 and a standard deviation of 0.79, verbally interpreted as *highly*



acceptable among the respondents.

This implies that audio-visual is generally well-accepted by validators in terms of resolution. High resolution in audio-visual materials enhances learners' comprehension, engagement, and retention by providing clear, detailed visuals

that facilitate understanding and captivate attention.

Table 8 shows the level of acceptability of audio-visual features in terms of design. Also shows the statements, mean, standard deviation and remarks.

**Table 8 Level of Acceptability of Audio-Visual Features in Terms of Design**

The audio-visual material...	MEAN	SD	REMARKS
...is generally appealing and motivating.	4.60	0.52	Strongly Agree
...uses captions that are readable.	4.40	0.52	Strongly Agree
...uses colors that fit well with the background.	4.50	0.53	Strongly Agree
...contains visual that fit the level of interest, knowledge, and skills of the target users.	4.60	0.52	Strongly Agree
...incorporates illustrations that simplify complex concepts	4.70	0.48	Strongly Agree
Weighted Mean	4.56		
SD	0.51		
Verbal Interpretation	Highly Acceptable		

The validators strongly agree that the audio-visual material incorporates illustrations that simplify complex concepts. (M = 4.70 and SD=0.48) indicate a high level of acceptability of audio-visual features in terms of design. On the other hand, the validators agree that the audio-visual material uses captions that are readable. While the mean and standard deviation are slightly lower (M = 4.40 and SD = 0.52), it still indicates a high level of acceptability of audio-visual features in terms of design.

This implies that audio-visual is generally well-accepted by validators in terms of design. Design is carefully checked and includes pictures in videos for students because visuals help them understand, remember, and stay interested. These images don't just show ideas; they also make learning more engaging by activating different senses, making it easier to grasp the topic.

**Level of Students' Motivation**

The level of students' motivation in terms of learning relevance, use of time management and developed self-discipline was treated statistically using mean and standard deviation.

Table 9 shows the level of student's motivation in terms of learning relevance. Also shows the statements, mean, standard deviation and remarks.

The students are motivated and engaged in the learning process using audio-visual. (M = 4.21 and SD=0.42) conclude a high level of student's motivation in terms of learning relevance. On the other hand, the students acquire the concept of computer tools using audio-visual. While the mean and standard deviation are slightly lower (M = 3.88 and SD = 0.46), it still indicates a high level of student's motivation in terms of learning relevance.

**Table 9 Level of Students' Motivation in Terms of Learning Relevance**

The students...	MEAN	SD	REMARKS
...are motivated and engaged in the learning process using audio-visual.	4.21	0.42	Strongly Agree
...achieve the learning objectives on hand tools in computers.	3.93	0.48	Agree
...acquire the concept of computer tools using audio-visual.	3.88	0.46	Agree
...apply their knowledge and skills in practical contexts.	3.96	0.49	Agree
...connect existing knowledge to new knowledge to facilitate relevant and meaningful learning.	4.15	0.48	Agree
Weighted Mean	4.03		
SD	0.47		
Verbal Interpretation	Observed		

The level of student's motivation in terms of learning relevance attained a weighted mean score of 4.03 and a standard deviation of 0.47, verbally interpreted as *observed* among the students.

This implies that audio-visual generally motivates students in terms of learning relevance. The audio-visual can facilitate relevant and meaningful learning. Students were able to participate with desired learning outcomes upon use of the



audio visual material.

Table 10 shows the level of student’s motivation in terms of use of time management. Also shows the statements, mean, standard deviation and remarks.

The students are actively involved and excited about the lesson during the motivation phase. The mean and standard deviation

(M = 4.17 and SD=0.34) suggests a high level of student’s motivation in terms of use of time management. On the other hand, the students understand the ideas and concepts presented during the lecture phase. While the mean and standard deviation are slightly lower (M = 3.94 and SD = 0.49), it still indicates a high level of student’s motivation in terms of learning relevance.

**Table 10 Level of Students’ Motivation in Terms of Use of Time Management**

The students...	MEAN	SD	REMARKS
...are actively involved and excited about the lesson during the motivation phase.	4.17	0.34	Agree
... understand the ideas and concepts presented during the lecture phase.	3.94	0.49	Agree
... complete tasks promptly during the activity phase.	3.99	0.50	Agree
... deliver their output within the specified time during the presentation phase.	4.05	0.49	Agree
... respond to all the questions during the assessment phase.	4.03	0.48	Agree
Weighted Mean	4.04		
SD	0.46		
Verbal Interpretation	Observed		

The level of student’s motivation in terms of use of time management attained a weighted mean score of 4.04 and a standard deviation of 0.46, verbally interpreted as *observed* among the students.

This implies that audio-visual provides a teaching and learning process that enables students to complete activities within the given time frame.

Table 11 shows the level of student’s motivation in terms of developed self-discipline. Also shows the statements, mean,

standard deviation and remarks.

The students consistently follow the rules and guidelines that are already set. (M = 4.12 and SD=0.39) conclude a high level of student’s motivation in terms of developed self-discipline. On the other hand, the students maintain focus and avoid distractions in using learning materials. While the mean and standard deviation are slightly lower (M = 3.93 and SD = 0.47), it still indicates a high level of student’s motivation in terms of learning relevance.

**Table 11 Level of Students’ Motivation in Terms of Developed Self-Discipline**

The students...	MEAN	SD	REMARKS
... consistently follow the rules and guidelines that are already set.	4.12	0.39	Agree
... maintain focus and avoid distractions in using learning materials.	3.93	0.47	Agree
... take the initiative to seek out opportunities for growth and improvement proactively.	3.96	0.50	Agree
... regularly complete assigned tasks.	3.95	0.49	Agree
... accepts feedback from the teacher to improve self-discipline and do better.	4.08	0.48	Agree
Weighted Mean	4.01		
SD	0.46		
Verbal Interpretation	Observed		

The level of student’s motivation in terms of use of developed self-discipline attained a weighted mean score of 4.01 and a standard deviation of 0.46, verbally interpreted as *observed* among the students.

This implies that audio-visual materials help students develop self-discipline, allowing them to understand lessons better by cultivating good habits in following classroom rules.

The level of student’s performance in written test in terms of formative test and summative test was treated statistically using frequency and percentage.

The table 12 shows level of student’s performance in written test in terms of formative test and summative test. Additionally, shows the frequency, percentage, and remarks.

**Student’s Performance**



**Table 12 Level of Students' Performance**

Scores	Formative Test		Remarks	Scores	Summative Test		Remarks
	Frequency	Percentage			Frequency	Percentage	
21-25	2	5.00%	Outstanding	21-25	40	100.00%	Outstanding
16-20	35	87.50%	Very Satisfactory	16-20	0	0.00%	Very Satisfactory
11-15	3	7.50%	Satisfactory	11-15	0	0.00%	Satisfactory
6-10	0	0.00%	Fairly Satisfactory	6-10	0	0.00%	Fairly Satisfactory
0-5	0	0.00%	Did not meet expectation	0-5	0	0.00%	Did not meet expectation

**Weighted Mean** 18.38  
**SD** 1.76  
**Verbal Interpretation** Very Satisfactory

In terms of formative test, Out of 40 respondents, the scores "16-20" received the highest frequency, with thirty-five (35) respondents, accounting for 87.50% of the total sample population. This was followed by the scores "11-15" with a frequency of three (3) respondents, comprising 7.50% of the total sample population. Meanwhile, the scores "0-5 and 6-10" received zero (0) respondent, making up 0.00% of the total sample population.

The level of students' performance in written test in terms of formative test attained a weighted mean score of 18.38 and a standard deviation of 1.76 and was *very satisfactory* among the respondents.

While in terms of summative test, out of 40 respondents, the scores "21-25" received the all frequency 100.00% of the total sample population.

And the level of students' performance in the summative test in terms of control group attained a weighted mean score of 22.93

22.93  
 1.07  
 Outstanding

and a standard deviation of 1.07 and was *outstanding* among the respondents.

Furthermore, the students formative tests and other written performances results significantly improved upon use of audio materials in T.L.E. Student also actively participated and showed more interest in their daily lessons.

**Test of Significant Effect of Audio-Visual Content on the Students' Motivation**

To test the significant effect of audio-visual content and features on the students' motivation among Grade 7 students in terms of learning relevance, use of time management and developed self-discipline was treated statistically using Jamovi using the regression analysis.

The table showed the unstandardized coefficients, standardized coefficients, t-values, and p-values for each predictor variable. The analysis included three predictor variables: objectives, sequence, language used and inclusivity.

**Table 13 Significant Effect of Audio-Visual Laboratory Exercises Content on the Students' Motivation**

Learning Relevance	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t	
(Constant)	4.425	0.557		7.941	<.001
Objectives	-0.024	0.074	-0.075	-0.331	0.743
Sequence	-0.026	0.053	-0.096	-0.492	0.626
Language Used	0.006	0.053	0.221	0.117	0.907
Inclusivity	-0.045	0.049	-0.183	-0.926	0.361
R = .171; R <sup>2</sup> = .0291; Adj. R <sup>2</sup> = -0.0819, F(4, 35) = 0.262; p.900					
<b>Use of Time Management</b>					
(Constant)	4.142	0.574		7.209	<.001
Objectives	-0.013	0.076	-0.039	-0.176	0.861
Sequence	0.047	0.054	0.166	0.869	0.391
Language Used	-0.062	0.055	-0.209	-1.137	0.263
Inclusivity	0.007	0.050	0.028	0.147	0.884
R = .272; R <sup>2</sup> = .0738; Adj. R <sup>2</sup> = -0.0320, F(4, 35) = 0.697; p.599					
<b>Developed Self-Discipline</b>					
(Constant)	3.177	0.496		6.41	<.001
Objectives	0.153	0.066	0.493	2.31	0.027
Sequence	0.054	0.047	0.215	1.16	0.254
Language Used	-0.075	0.047	-0.281	-1.58	0.122
Inclusivity	0.058	0.043	0.251	1.35	0.187
R = .376; R <sup>2</sup> = .141; Adj. R <sup>2</sup> = -0.0433, F(4, 35) = 1.44; p.241					



In terms of *learning relevance*, the results further showed that 2.91% of the variance is explained by the four predictors,  $F(3, 35) = 0.262, p.900$ . All predictor variables, objectives ( $B = -0.075, t = -0.331, p.743$ ), sequence ( $B = -0.096, t = -0.492, p.626$ ), language used ( $B = 0.221, t = 0.117, p.907$ ) and inclusivity ( $B = -0.183, t = -0.926, p.907$ ) are not significantly affected the outcome variable.

This implies of widespread use of audio-visual materials, research findings indicate a non-significant effect on Grade 7 students' motivation concerning learning relevance. This suggests that while audio-visual content may enhance the delivery of educational material and facilitate understanding, it may not significantly impact students' motivation levels in terms of perceiving the relevance of what they are learning to their lives or future goals.

Secondly, in terms of *use of time management*, the results further showed that 7.38% of the variance is explained by the four predictors,  $F(3, 35) = 0.697, p.599$ . All predictor variables, objectives ( $B = -0.039, t = -0.176, p.861$ ), sequence ( $B = 0.166, t = 0.869, p.391$ ), language used ( $B = -0.209, t = -1.137, p.263$ ) and inclusivity ( $B = 0.028, t = 0.147, p.884$ ) are not significantly affected the outcome variable.

This implies the non-significant effect of audio-visual laboratory exercises content on Grade 7 students' motivation in terms of time management. Despite efforts to structure objectives, tailor content, use appropriate language, and ensure inclusivity, there was no substantial improvement in students' time management skills. Students did not exhibit noticeable enhancements in their ability to effectively manage their time when engaging with audio-visual materials.

Lastly, in terms of *developed self-discipline*, the results further showed that 14.10% of the variance is explained by the four

predictors,  $F(3, 35) = 1.44, p.241$ . Specially, objectives ( $B = 0.493, t = 2.31, p.027$ ) is positively affect with students' motivation among Grade 7 students in terms of developed self-discipline. On the other hand, sequence ( $B = 0.251, t = 1.16, p.254$ ), language used ( $B = -0.281, t = -1.58, p.122$ ) and inclusivity ( $B = 0.251, t = 1.35, p.187$ ) are not significantly affected the outcome variable.

This implies a positive and significant effect of audio-visual laboratory exercises content on Grade 7 students' motivation in terms of developing self-discipline. Students who engage with such content demonstrate improved goal-setting abilities, better time management skills, and increased persistence in completing tasks, leading to enhanced self-discipline.

The table showed the unstandardized coefficients, standardized coefficients, t-values, and p-values for each predictor variable. The analysis included three predictor variables: visual effect, audio, resolution, and design.

In terms of *learning relevance*, the results further showed that 2.64% of the variance is explained by the four predictors,  $F(3, 35) = 0.238, p.915$ . All predictor variables, visual effect ( $B = 0.025, t = 0.123, p.903$ ), audio ( $B = -0.109, t = -0.622, p.538$ ), resolution ( $B = -0.092, t = -0.466, p.644$ ) and design ( $B = -0.120, t = -0.525, p.603$ ) are not significantly affected the outcome variable.

Secondly, in terms of *use of time management*, the results further showed that 8.38% of the variance is explained by the four predictors,  $F(3, 35) = 0.800, p.533$ . All predictor variables, visual effect ( $B = 0.060, t = 0.298, p.767$ ), audio ( $B = -0.033, t = -0.196, p.846$ ), resolution ( $B = 0.026, t = 0.140, p.890$ ) and design ( $B = 0.257, t = 1.162, p.253$ ) are not significantly affected the outcome variable.

**Table 14 Significant Effect of Audio-Visual Laboratory Exercises Features on the Students' Motivation**

<i>Learning Relevance</i>	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t	
(Constant)	4.371	0.365		11.968	<.001
<i>Visual Effect</i>	0.004	0.035	0.025	0.123	0.903
<i>Audio</i>	-0.034	0.055	-0.109	-0.622	0.538
<i>Resolution</i>	-0.015	0.033	-0.092	-0.466	0.644
<i>Design</i>	-0.030	0.058	-0.120	-0.525	0.603
R = .163; R <sup>2</sup> = .0264; Adj. R <sup>2</sup> = -0.0848, F(4, 35) = 0.238; p.915					
<b><i>Use of Time Management</i></b>					
(Constant)	3.704	0.373		9.906	<.001
<i>Visual Effect</i>	0.010	0.036	0.060	0.298	0.767
<i>Audio</i>	-0.011	0.056	-0.033	-0.196	0.846
<i>Resolution</i>	0.004	0.034	0.026	0.140	0.890
<i>Design</i>	0.069	0.060	0.257	1.162	0.253
R = .289; R <sup>2</sup> = .0838; Adj. R <sup>2</sup> = -0.0209, F(4, 35) = 0.800; p.533					
<b><i>Developed Self-Discipline</i></b>					
(Constant)	3.841	0.315		12.181	<.001
<i>Visual Effect</i>	-0.020	0.030	-0.126	-0.659	0.514
<i>Audio</i>	0.030	0.047	0.104	0.647	0.522
<i>Resolution</i>	-0.044	0.028	-0.268	-1.546	0.131
<i>Design</i>	0.065	0.050	0.268	1.285	0.207
R = .435; R <sup>2</sup> = .189; Adj. R <sup>2</sup> = 0.0969, F(4, 35) = 2.05; p.109					



Lastly, in terms of *developed self-discipline*, the results further showed that 18.90% of the variance is explained by the four predictors,  $F(3, 35) = 2.05, p.109$ . All predictor variables, visual effect ( $B = -0.126, t = -0.659, p.514$ ), audio ( $B = 0.104, t = 0.647, p.522$ ), resolution ( $B = -0.268, t = -1.546, p.131$ ) and design ( $B = 0.268, t = 1.285, p.207$ ) are not significantly affected the outcome variable.

This implies a non-significant effect on students' motivation in terms of learning relevance, time management, and developed

self-discipline. This indicates that specific features such as visual effects, audio quality, resolution, and design do not significantly impact student motivation in these areas.

**Test of Significant Difference between the Formative and Summative Test**

The significant difference between the formative and summative test of Grade 7 students was treated statistically using Real Statistics Data Analysis Tools using the t-test for two paired samples.

**Table 15 Significant Difference between the Formative and Summative Test**

Test	Mean	Mean Difference	t-value	p	Cohen's d
Formative	18.48				
		4.48	34.04	<.001	5.45
Summative	22.97				(Very Large)

$df = 28$ ; \*\*Significant at .01 level; Cohen's d: 0.20 (Small); 0.50 (Medium); 0.80 (Large)

The results show learning outcomes of grade 7 students had higher mean scores in the summative test ( $m = 22.97$ ) compared to the formative test (18.48) and was observed significant since the computed p-value is larger than the level of significance at 0.05. Additionally, the mean difference is 4.48 with a t-value of 34.04. Utilizing Cohen's d statistical measure to quantify the magnitude of the difference between formative and summative test results, the analysis indicates a very large effect size. This suggests that the disparity in Grade 7 students' performance on formative versus summative tests, concerning the integration of TLE audio-visual, is not merely incidental but rather substantial and statistically significant.

Additionally, this implies the impact of audio-visual on summative test outcomes underscores the importance of incorporating diverse multimedia resources into classroom instruction to enhance student learning experiences. Educators should strategically leverage audio-visual aids to reinforce key concepts, stimulate active participation, and cater to varied learning preferences, thereby optimizing both formative and summative assessment processes for Grade 7 students.

**4. CONCLUSION AND RECOMMENDATIONS**

Based on the findings gathered from the study, it was found that:

1. There is no significant effect of TLE audio-visual content and features on grade 7 students' motivation. This implies that the content and features of the materials must align with the students' level to truly motivate them. Engaging videos and clear sounds tailored to their interests and comprehension level are essential to spark their motivation. Therefore, it's crucial for educators to carefully consider the content and features of audio-visual materials to effectively motivate students in their learning journey.
2. There is a significant difference between the students' performance in the formative and summative test. This implies that incorporating TLE audio-visual materials into the curriculum could significantly contribute to the overall academic success and comprehension of grade 7 students. As educators continue to explore innovative teaching methods, integrating multimedia resources like audio-visual

materials can play a pivotal role in creating dynamic and engaging learning environments.

Based on the findings and conclusion of the study, the following were hereby recommended:

1. The researcher encourages the development and utilization of audio-visual materials by teachers within the teaching and learning process, aimed at addressing learning gaps observed in specific subject areas.
2. Within the development phase of audio-visual materials, particular emphasis should be placed on enhancing or directing attention to visual effects, given their effectiveness in capturing student attention.
3. Researchers are encouraged to explore the creation of diverse interactive materials as a means to support the remediation of learning loss or to target and address identified learning gaps.

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