YOUTUBE-ASSISTED LEARNING, READING COMPREHENSION AND MOTIVATION AMONG MALAYSIAN SECONDARY ESL STUDENTS: A CLASSROOM STUDY

Arestina Arechon

Faculty of Education and Sports Studies, Universiti Malaysia Sabah
Arestina.A02@gmail.com
Received: 30.9.2026 Accepted: 1.11.2026
Revised: 30.10.2026 Published: 13.11.2026
DOI: https://doi.org/10.51200/ijelp.v9i1.8610

Abstract

This study examined changes in reading comprehension scores and students' perceptions of motivation following the use of YouTube-assisted learning among Malaysian secondary ESL students. A mixed-methods approach was employed involving 30 Form 3 students from a secondary school in Sabah. The theoretical framework of Mayer's Cognitive Theory of Multimedia Learning (CTML) and Keller's ARCS Model of Motivational Design was used in this study. The quantitative phase used a one-group pre-test and post-test design, followed by a three-week YouTube-assisted learning intervention. Data and measurements were analysed using the Wilcoxon Signed-Rank Test and showed a statistically significant improvement in pre-test and post-test reading scores (Z = -3.315, p < .001, and effect size, r = .61), with an estimated location shift of 1.50 points (approximate 95% CI [0.50, 2.50]). The mean score increased from 18.90 to 20.47, although the median remained at 20.00. For the qualitative phase, semi-structured interviews were conducted with four selected students and their responses were then analysed using the ARCS Model, focusing on *Attention, Relevance, Confidence and Satisfaction*. The findings showed that the students generally described the videos as engaging while some reported that the visual content helped them understand the context of reading topics. Some students also reported feeling more confident when answering comprehension questions. However, they still preferred teacher guidance when dealing with unfamiliar vocabulary. Overall, the findings suggest that YouTube-assisted instruction can serve as a supporting tool in reading lessons. However, the absence of a control group means that the observed score changes cannot be attributed to the intervention alone.

Keyword(s): *YouTube-assisted learning, ESL reading comprehension, ARCS model, multimodal scaffolding.*

INTRODUCTION

The use of Information and Communication Technology (ICT) in schools has changed a lot about how teachers and students learn and teach in the digital era. As the digital generation comes of age, surrounded by technology from birth, teachers must adapt their teaching for it to better conform with the way their students want to learn as students today demonstrate a growing preference for engaging with content via digital and multimedia platforms, which influences their learning preferences and expectations (Maziriri et al., 2020; Zhou et al., 2020). For instance,

reading is commonly taught through repetition and textbook work, which can lead to disengagement and a lack of interest for students (Samat et al., 2019; Singh et al., 2023). YouTube can generate the interactivity of ESL classes to be more visually interesting and also relevant to students' lives and allows them to understand the subject easily which may interest them to learn the language (Fadhillah et al., 2021).

Moreover, YouTube is widely used by students for learning language and consume content beyond the classroom and yet integration of this media into formal ESL instruction, particularly in Malaysian secondary schools, is still vague and unstructured. This study extends existing work that has found that integrating ICT within education can increase student engagement (Ni et al., 2022; Shoufan & Mohamed, 2022). As such, by adopting the framework of Mayer's (2009) Cognitive Theory of Multimedia Learning (CTML) and Keller's (2010) ARCS Model, it can provide a basis for understanding how verbal and visual information may support learners' processing of instructional materials. However, the present study did not directly measure cognitive load. Therefore, this present paper aims to investigate the role of YouTube-assisted learning on Malaysian secondary ESL students' reading comprehension score changes and their perceptions of motivation. To fulfill these aims, the following research questions were addressed:

1. Is there a significant difference in Form 3 ESL students' reading comprehension test scores before and after the use of YouTube-assisted learning?
    - **Null Hypothesis H_0:** There is no significant difference in Form 3 ESL students' reading comprehension test scores before and after the use of YouTube-assisted learning.
    - **Alternative Hypothesis H_1:** There is a significant difference in Form 3 ESL students' reading comprehension test scores before and after the use of YouTube-assisted learning.
2. How do Form 3 ESL students perceive YouTube-Assisted Learning in influencing their motivation in English reading lessons?

LITERATURE REVIEW

This study is guided by two theories, namely the Cognitive Theory of Multimedia Learning (CTML) and the ARCS Model of Motivational Design. Collectively, these frameworks form a solid basis for examining the effects of YouTube-assisted learning on ESL students' reading comprehension and motivation in Malaysian secondary schools.

Cognitive Theory of Multimedia Learning (CTML)

Mayer's (2009) Cognitive Theory of Multimedia Learning (CTML) suggests how learners process verbal and visual information through separate but related channels, each with limited capacity. Learning involves selecting relevant information, organising it into verbal and pictorial representations, and integrating these representations with prior knowledge (Mayer, 2009). In the context of ESL learning, YouTube videos may provide the dual processing of auditory/verbal and visual/pictorial that helps students build background knowledge before engaging with a reading passage.

The ARCS Model of Motivational Design

The ARCS Model of Motivational Design, developed by Keller (2010) is a framework that explains four important areas that can support students' motivation in the learning context, which emphasises four key factors: *Attention, Relevance, Confidence, and Satisfaction*. The visual appeal and engaging content of YouTube videos capture learners' *Attention*, which helps them focus longer when language learning tasks encounter engagement challenges (Pribadi et al., 2021). *Relevance* refers to how learners perceive the connection between learning materials and their needs or interests. Li (2022) provides an example of ARCS model being applied in another educational context (music), demonstrating its use beyond language learning. Meanwhile, *Confidence* refers to students' beliefs about their ability to succeed in learning tasks, while *Satisfaction* relates to the positive feelings associated with successful learning experiences (Keller, 2010). The model has also been applied in EFL learning, highlighting its relevance to language learning contexts (Sari et al., 2021). When students enjoy the learning process and feel rewarded, they continue interacting with the educational media, which helps obtain better academic outcomes (Sari et al., 2021). These four components provide a framework for exploring students' motivational experiences when using YouTube videos during reading lessons.

Empirical Trends and Gaps in YouTube-Assisted ESL Instruction

Results from previous empirical research indicate that multimedia can support ESL learners' reading comprehension by providing visual and auditory assistance. Research has shown that educational technology can improve ESL students' reading achievement, particularly in developing basic reading skills (Ni et al., 2022). Platforms like YouTube may also support language learning by exposing students to authentic, real-world situations, which may contribute to their motivation and understanding (Alobaid, 2020; Zhou et al., 2020). When used alongside appropriate reading strategies, these resources may also support higher-order thinking and help students develop a better understanding of reading materials (Elston et al., 2022; Momdjian & Chidiac, 2024). However, digital media alone may not be sufficient to support learning. Without effective teaching strategies, student engagement may fluctuate, while difficult reading texts can continue to cause challenges for learners (Singh et al., 2023).

Within the Malaysian context, previous studies have shown that video-based activities can engage secondary school students, although these studies have mainly focused on speaking skills rather than reading comprehension (Andiappan et al., 2022). Furthermore, local research has explored how multimedia materials can support students' reading comprehension (Samat et al., 2019). However, specific research on YouTube-assisted reading comprehension among Malaysian secondary school students remains limited. Previous studies have also examined YouTube use in different areas of English language learning, including listening (Fadhillah et al., 2021), speaking (Andiappan et al., 2022; Truong & Le, 2022) and English for Specific Purposes (Hamidah & Prystiantanta, 2023). Other studies have explored students' acceptance of YouTube as a learning source (Maziriri et al., 2020; Nguyen & Hien, 2023). This provides a context for the present classroom-based study which seeks to address this gap by examining changes in students' reading comprehension scores and their perceptions of motivation following the integration of YouTube videos into reading lessons.

METHODOLOGY

Research Design

The design of this study used an explanatory sequential mixed-method design (Creswell & Plano Clark, 2018). In this design, quantitative data was collected first through a one-group pre-test and post-test pre-experimental design to measure reading comprehension scores before and after the three-week intervention. The qualitative phase followed, using semi-structured interviews with selected students in order to understand more about their experiences and perceptions of motivation towards using YouTube in reading classes. Both sets of findings were considered together during the interpretation of the results. However, because this was a pre-experimental design without a control group, observed score differences cannot be attributed solely to the intervention. Potential threats to validity, such as history (outside events), maturation (students naturally improving over time), and testing effects (familiarity with the test format), may have also influenced the results.

Population and Sampling

The participants consisted of 30 Form 3 students selected using purposive sampling from a mixed-ability ESL classroom in a secondary school in Sabah, Malaysia. The researcher carried out the three-week intervention while serving as student teacher during the final teaching practicum which means the researcher was directly involved in conducting the intervention and teaching the reading lessons. Therefore, the researcher's involvement in the classroom was considered when interpreting the student's interview responses, as it may have influenced how they expressed their opinions about the lesson. At first, there were 36 students in the class. However, the final data only comes from 30 students as the 6 students were absent during either the pre-test, or post-test. For the semi-interview, 4 participants (Participant 1 to 4) were selected based on their reading performance in the pre-test using maximum variation sampling to capture a wide range of perspectives across high, intermediate and low proficiency levels. Specifically, Participant 1 was a high-proficiency student, Participant 2 was an intermediate student, Participant 3 was intermediate-low and Participant 4 was a low-proficiency student.

Research Instruments

In this study, three main components were used to conduct the research and collect data: the teaching intervention, the reading comprehension tests, and the semi-structured interview.

The Intervention: YouTube-Assisted Lessons

The teaching intervention lasted for three weeks and incorporated YouTube videos into reading comprehension lessons. The videos were played before or during the reading activities to provide background knowledge and visual context for the topics. Students then engaged with the reading passages and completed comprehension tasks related to each lesson. The details of the three-week lesson plan, including the topics, video titles and learning outcomes, are shown in Table 1.

Table 1: Intervention Weeks and YouTube Activities

Week and Duration	Topic/ Learning Outcome	YouTube Video Link	Brief Explanation of Lesson Activities
Week 1 (60 min)	Topic: How to Grow Paddy Outcome: Students can comprehend and extract main ideas from a text about traditional agriculture.	Remarkable Rice: how does rice growth. Link (2:45 min)	Students watched a video about growing paddy to help them visualise a traditional farming process that some of them had never experienced in real life. The video provided background knowledge before students read the passage and answered comprehension questions.
Week 2 (60 min)	Topic: Urban Forest Outcome: Students can identify and extract the core benefits of urban forests for both humans and animals.	Benefits of Urban Forest. Link (5:37 min)	The lesson started with a pre-lesson activity contrasting two different city pictures to spark curiosity. After watching the video and reading the text, students engaged in a peer-checking session to successfully extract the main points about urban forests.
Week 3 (60 min)	Topic: OPEC (Organization of the Petroleum Exporting Countries) Outcome: Students can understand and answer comprehension questions based on a complex global topic.	What is OPEC? | CNBC International. Link (1:05 min)	Because OPEC is a foreign and complex topic for secondary students, the lesson used a YouTube video to provide audio and visual context first. This helped bridge their knowledge gap so they could understand the reading passage much easier and complete their tasks.

Reading Comprehension Performance Tests

To see if there was any improvement in reading comprehension, a pre-test and a post-test were given to the students before and after the intervention. The test format was adapted from a validated study by Hayikaleng (2018). The test from the original study actually had six reading passages, but only selected four passages were chosen so it could fit into the normal English class time constraints as well as cost since the tests were distributed physically via paper. Each passage has six questions, which consisted of four Low-order Thinking Skills (LOTS) and two High-Order Thinking Skills (HOTS) questions. In total, the test had 24 multiple-choice questions that focused on measuring the students' ability to extract main ideas and understand vocabulary from the text. The exact same 24 item multiple-choice test adapted from Hayikaleng (2018) was administered for both the pre-test and post-test. Due to school schedule constraints during the

teaching practicum, the adapted test was not separately pilot tested. Although the original instrument was used as a reference, selecting only four passages out of six means that its original validity and reliability evidence cannot automatically be assumed to apply fully to the adapted version used in this study. All test papers were marked manually by the researcher using objective scoring key, where each correct answer was awarded 1 mark (maximum score of 24).

Semi-Structured Interview

To collect deeper information about the students' experiences, individual face-to-face semi-interviews were conducted with 4 selected students after the post-test. Keller's ARCS Model of Motivational Design, encompassing *Attention, Relevance, Confidence,* and *Satisfaction,* was utilised as the primary theoretical framework for structuring and analysing the interviews. The qualitative interview questions were developed and adapted with reference to Keller's (2010) ARCS Model of Motivational Design and Keller's (2010) Instructional Materials Motivation Survey (IMMS). Although eight questions were prepared in total (two questions representing each of the four ARCS components; see Appendix), each student was only asked one question from each category randomly during the actual interview. This means every participant only answered a total of four questions so that the interview remained focused and avoid making the participants overwhelmed. During the semi-interviews, participants were allowed to answer in Malay (Bahasa Melayu) so that they could express their true feelings more comfortably and authentically. Their answers were later translated into English for the write-up. The audio recordings were transcribed and translated into English directly by the researcher who is bilingual. To ensure semantic accuracy and preserve local colloquial expressions (such as *syok* and *pahamlah*), the translated transcripts were cross-checked and verified by fellow bilingual TESL student teachers. For qualitative analysis, deductive thematic analysis was conducted by the researcher, using the four dimensions of Keller's ARCS model (*Attention, Relevance, Confidence, and Satisfaction*) as predefined coding categories to organise the students' feedback.

Data Analysis Procedures

IBM SPSS Statistics was used to analyse the scores gathered from pre-test and post-test. Before running the main analysis, a Shapiro-Wilk test was used to check if the test scores were normally distributed. Data was found to be not normally distributed and therefore, a non-parametric test called the Wilcoxon Signed-Rank Test was used to compare the paired scores. The results were reported including the medians and interquartile ranges (IQR). The Hodges–Lehmann estimator was used to estimate the location shift between paired scores, with an approximate 95% confidence interval. Effect size for non-parametric tests was calculated using Rosenthal's *r*, based on the standardised test statistic divided by the square root of the sample size *($r = Z / \sqrt{N}$).* Finally, the findings from both analyses were triangulated to produce a comprehensive understanding of the study.

FINDINGS & DISCUSSION

Reading Comprehension Score Changes Following YouTube-Assisted Learning

Research Question 1: Is there a significant difference in Form 3 ESL students' reading comprehension test scores before and after the use of YouTube-assisted learning?

To answer the first research question, students' reading comprehension scores from the pre and post tests were analysed. The data in the summary Table 2 showed that students reading test achievement had improved following the YouTube-assisted lessons. The pre-test results of the students were a mean score of 18.90 (M = 18.90).

Table 2: Descriptive Analysis of Reading Comprehension Scores

Testing Phase	Mean *(SD)*	Median	IQR
Pre-Test	18.90 (2.95)	20.00	4.00
Post-Test	20.47 (1.74)	20.00	3.00

This average rose to 20.47 (M = 20.47) in the post-test after the intervention. However, the median remained unchanged at 20.00. The *SD* for the pre-test was 2.95 (SD = 2.95), which suggests there was some variation in students' performance within the range of proficiency. However, in the post-test, the *SD* reduced to 1.74 (SD = 1.74). These results indicate that the average score was higher after the intervention, while the overall spread of scores became smaller. However, the unchanged median suggests that the improvement were not reflected in the middle score of the class.

A Wilcoxon Signed-Rank test was carried out in SPSS to determine whether the improvement was significant rather than due to chance. This non-parametric test was selected because the Shapiro-Wilk test indicated that both the pre-test scores (p = .019) and post-test scores (p = .003) were not normally distributed. The analysis showed a statistically significant difference between pre-test and post-test scores (Z = −3.315, p < .001), well below the standard benchmark of .05. Therefore, the null hypothesis (H_0) is rejected, and the alternative hypothesis (H_1) is accepted. The Hodges-Lehmann estimate indicated a location shift of 1.50 points with an approximate 95% confidence interval of [0.50, 2.50]. The effect size was r = .61, indicating a large effect. Based on the rank results, 21 out of 30 students improved their scores (Positive Ranks), 5 students scored lower (Negative Ranks), and 4 students maintained the same scores (Ties).

Cognitive Scaffolding and Reading Comprehension Improvement

The aim of this study was primarily to examine the use of YouTube videos on reading comprehension scores and perceived learning motivation of Malaysian ESL students. The results of the tests and interviews with the students suggest a possible benefit: the use of audio-visual devices in the language classroom was associated with higher post-test scores and involvement. A change was observed regarding the reading scores, as there was a significant improvement

after the three-week project (Wilcoxon Signed-Rank Z = -3.315, p < .001, large effect size r = .61). From a theoretical viewpoint, this improvement aligns with Mayer's (2009) Cognitive Theory of Multimedia Learning (CTML). According to this theory, presenting information through both visual and spoken channels can help learners build mental models more easily. Student feedback from the qualitative interviews stated that the visuals provided Participant 3 with a 'quick picture' of a topic before delving into the text. This finding is consistent with Elston et al. (2022), who examined the role of explicit reading comprehension strategy instruction for ESL learners. The results also align with a large-scale meta-analysis by Ni et al. (2022) which reported an overall positive effect of educational technology on reading achievement among Chinese K-12 learners (d = .37). Although these quantitative test scores showed an improvement in reading comprehension, these numbers only tell part of the story.

Score Distribution and Performance Gaps

As the student interviews later revealed, for strong readers with good command of English vocabulary, the videos were simply an extra enjoyable feature.

Although the median did not change, the lowest score rose from 11 to 18, suggesting that students at the lower end made progress, although these data cannot show which students benefited most. It is also important to consider differences in individual students' results. For example, the Wilcoxon test showed 21 positive ranks, but there were also four ties and five negative ranks. The ceiling effect may help explain why some students who had already achieved high scores in the pre-test showed little or no further improvement. These results suggest that students who started with higher scores had less room to demonstrate further improvement. The negative ranks, however, reveal that multimedia is not an absolute solution against the realities of everyday classrooms. However, the reasons for these individual decreases cannot be determined from the available test results. According to Singh et al. (2023), student engagement is naturally variable, and students can easily be distracted by external pressure, no matter how engaging the lesson material is.

ESL Students' Perceptions of YouTube-Assisted Learning and Motivation

Research Question 2: *How do Form 3 ESL students perceive YouTube-Assisted Learning in influencing their motivation in English lesson?*

To answer the second research question, the four interview transcripts were analysed using a deductive thematic analysis. The analysis was done purely on the four elements of Keller's ARCS Model which are *Attention*, *Relevance*, *Confidence* and *Satisfaction* presented in Table 3. To protect the anonymity of the students, they are referred to as Participant 1 through Participant 4. For students who answered the interview questions in Malay, the direct English translation is presented together with the original phrasing to preserve the authenticity of their responses.

Table 3: Thematic Analysis of Student Motivation Based on the ARCS Model

Theme	Key Codes/ Sub-themes	Sample Student Quotes (Verbatim & Translated)
Theme 1: Attention	• High engagement • Visual curiosity • Reduced boredom	*"Watching YouTube videos makes you intrigued... it shows every important point without any more words that isn't relevant."* **(Participant 1)** *"Enjoy. Sebab dia macam syok... kita belajar sambil... boleh dengar lagu daripada dia punya penjelasan video."* [Enjoy. Because it's fun... we learn while... being able to hear music from the video's explanation.] **(Participant 4)**
Theme 2: Relevance	• Contextual scaffolding • Visual learning preference • Easier comprehension	*"Dia buat saya lebih paham sebab video itu macam ada visual dia begitulah... saya rasa daripada baca, boleh tengok YouTube pun boleh pahamlah."* [It makes me understand better because the video has its visuals like that... I feel that instead of reading, being able to watch YouTube helps me understand too.] **(Participant 3)** *"…Tengok YouTube sebab lagi faham sebab dia ada gambar dan juga dia boleh bagi explanation yang lagi dalam."* […watching YouTube because I understand more since it has pictures and it can also give a deeper explanation.] **(Participant 4)**
Theme 3: Confidence	• Reduced test stress • Video repetition support • Vocabulary limitations	*"Video watch make me feel more confident about picking the right choose for the hard question..."* **(Participant 3)** *"Yes... because I can look at the videos and I can... make sure that it was the right answer. Because my teacher... played the video two times..."* **(Participant 2)**
Theme 4: Satisfaction	• Stress-free learning • Fun environment • Relief from long text	*"Yes, because it's like playful…playful learning... if I read like anything that with... that's long, I will get either tired or just... bored..."* **(Participant 1)** *"Um, I really enjoy…I really enjoy it. It doesn't even make me any stress at all. Um, but overall, it's so fun, and I don't think it's making anyone stressful"* **(Participant 2)**

The qualitative results (see Table 3) provide insight into how the four interview participants experienced YouTube-assisted reading lessons. As shown in Table 5, all four participants (4/4) reported Attention and Satisfaction, three (Participants 1, 2 and 3) reported Confidence, and two (Participants 3 and 4) found the visual content helped them understand the reading topics (Relevance). The teacher replaying the video a second time was described as a

"safety net" for answering tough questions. When guessing new words on their own, Participant 4 mentioned that although the video gave the general meaning of a word, they still preferred a clearer and bigger explanation and examples to help them guess it on a test, as they said:

> *"No... walaupun dia sudah kasi tahu meaning tu perkataan tapi saya masih tidak boleh teka sebab... kurang... penjelasan, contoh"* [No... even though it already gave the meaning of that word, I still couldn't guess because it lacks explanation and examples]. **(Participant 4)**

This response shows that although the video helped the student understand the general gist of a topic, it was not always enough to explain unfamiliar vocabulary. The student still needed clearer explanations and examples from the teacher. Likewise, this suggests that technology does not replace the role of the teacher, rather, it actually complements the teacher in order to make the student feel supported. Participant 2 shared that they still preferred to double-check with the teacher if they did not understand any words, admitting;

> "Um, not really. I need to ask the teacher for confirmation. I need really- I need to ask the teacher about it. I don't really understand". **(Participant 2)**

This shows that digital tools work best as an extra classroom help rather than an independent instructor on their own. Finally, the response suggested that some students who needed additional support found the visual materials helpful, whereas stronger students, like Participant 1 (who already felt fine using the English dictionary), simply found the textbook text easy to read on its own, noting;

> "Well, for me, I already know about any…about words in the English dictionary, so it really wasn't a problem for me". **(Participant 1)**

These different responses suggest that students with different reading abilities may experience YouTube-assisted lessons differently. While some students found the visual support helpful, others were already comfortable reading the English text without additional assistance. Therefore, teachers should consider students' different learning needs when selecting multimedia materials for reading lessons.

The video clips taken from real life gave the reading lessons *Relevance* as it can help link difficult, new subjects (such as the term 'OPEC' in the intervention) with visual and narration that students could easily absorb in sitting. This is consistent with Zhou et al. (2020), who found that personal factors, learning expectations, and previous experiences influenced how people used YouTube as a learning source.However, the detailed analysis of the overall scores distribution shows that these tools are conditioned by the way they are managed in the classroom.

The Role of Teacher Scaffolding in Digital Learning

Based on the findings, videos cannot do the job alone, as YouTube is not a substitute for the teacher, but a supporting tool in classroom instructions. Participants 2 and 4 have stated that the video provided a general understanding of the topic, but they required the teacher's explanation of specific difficult words to answer test questions more accurately. Because students do not know how to use the right reading strategies by themselves, they need teachers to actively teach and guide them in the classroom. This suggests that technology may be more useful when integrated into a broader instructional approach rather than used only as an additional activity (Ni et al., 2022).

Limitations of the Study

The results of this study are meaningful, but there are a number of limitations; mainly, there were only 30 students on the reading tests and 4 students in the interviews. As this study was based on a small sample and from a single school only, the conclusion of this study may not necessarily be applicable to all ESL learners in secondary schools in Malaysia. The intervention was only three weeks long due to time constraints, which was quite a short amount of timeframe and the excitement and engagement that students experienced may also change if the YouTube assisted approach was implemented over a longer period of time, such as a term of school year. In addition, the research was conducted with a group that was tested first and then retested, without a control group for comparison. In addition, the adapted test was not separately pilot tested. Due to this, it is difficult to draw definite conclusions about the effect of the YouTube intervention alone, as other external influences, for example, students' familiarity with the format of this test or school-based routine, may have also affected the outcomes of the test. Lastly, the qualitative data was based on the self-reported feedback provided during the interview; there was a possibility that students had an inclination to respond positively to the researcher. In future research, a larger sample should be used, and a control group should be added to make the findings more valid. It would also be very useful to track student progress over a longer time frame to determine whether the positive effects on motivation and reading comprehension are maintained over time.

Practical Recommendations for ESL Teachers

Based on the classroom findings, three practical tips are suggested for ESL practitioners:

1. *Keep videos brief and targeted:* This means use YouTube clips brief and directly relevant to the reading topic so that the video can provide context without taking away much time from the reading passage.
2. *Allow replay opportunities:* This means letting the students re-watch or pause the video to allow slower readers to verify facts and build their confidence when answering comprehension questions.
3. *Pre-teach key vocabulary alongside the video:* This means that while videos help with general topic ideas, students might still need the teacher to explicitly explain specific, difficult vocabulary before reading.

CONCLUSION

This study examined changes in reading comprehension scores and students' perceptions of motivation following the use of YouTube-assisted learning in a Malaysian secondary ESL classroom. If we consider the quantitative results, we observe a statistically significant increase in test scores after the three-week intervention with a large effect size (r = .61) where the mean increased from 18.90 to 20.47, while the median remained unchanged at 20.00. However, because the study did not include a control group, the improvement cannot be attributed solely to YouTube-assisted learning alone. The interview findings also showed that the four selected students generally viewed the videos positively. They describe the lessons as enjoyable and said that the addition of videos made the learning experience more fun compared to completing tasks using only regular printed texts. However, the findings also remind us that technology is not a replacement for the teacher, because even with videos, students still need their teacher to explain specific vocabulary and provide deeper examples that catered to their level.

Overall, the findings suggest that YouTube can be used as a supporting tool in ESL reading lessons when combined with reading activities and teacher explanation. However, the results should be interpreted within the context of this particular classroom. The small sample, short intervention period and absence of a control group limit the conclusions that can be drawn as other factors could have affected scores such as familiarity with the test format and a possible ceiling effect among high-achieving students. Consequently, we cannot generalise these results to all schools in Malaysia. All in all, utilising multimedia like YouTube can be a useful way to support reading comprehension and create a more enjoyable learning experience for students when integrated appropriately into ESL reading lessons.

Conflict of Interest

The author declares that there is no conflict of interest.

Author Contribution

Arestina Arechon: Conceptualisation, Methodology, Data Collection, Quantitative & Qualitative Analysis, Writing – Original Draft.

Acknowledgements

The author would like to express sincere gratitude to Universiti Malaysia Sabah (UMS) for their support, facilities and resources throughout this study. Appreciation is also extended to SMK Kinarut for granting permission to conduct this research, as well as to the students involved for their enthusiastic participation and cooperation. This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Ethics Statement

The study was conducted at SMK Kinarut during the researcher's second teaching practicum as part of the Final Year Project. An official research permission letter issued by the university was presented to the school administration and the relevant school personnel were also informed of the research before the study was conducted. Permission was subsequently granted by the school administration, acting as the local authority for this classroom-based intervention. Prior to data collection, students were verbally informed about the research and what their participation involved before being asked whether they were willing to participate. Verbal assent was then obtained from all participating students. Research information was kept confidential and was accessible only to the researcher and the research supervisor. Data was also anonymised using participant identifiers to ensure confidentiality.

REFERENCES

Alobaid, A. (2020). Smart multimedia learning of ICT: Role and impact on language learners' writing fluency—YouTube online English learning resources as an example. *Smart learning environments*, *7*(1), 24. https://doi.org/10.1186/s40561-020-00134-7

Andiappan, S., Goh, H. S., & Soo, R. S. (2022). The use of vlogging to enhance speaking performance of ESL students in a Malaysian secondary school. *Teaching English with Technology, 21*(2), 23–39.

Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research (3rd ed.)*. SAGE Publications.

Elston, A., Tiba, C., & Condy, J. (2022). The role of explicit teaching of reading comprehension strategies to an English as a second language learner. *South African Journal of Childhood Education*, *12*(1), 1097. https://doi.org/10.4102/sajce.v12i1.1097

Fadhillah, J. N., Muniroh, S., & Rahmaningtyas, H. (2021). English department students' perceptions of using English talk show videos on YouTube to improve listening skill. *JoLLA: Journal of Language, Literature, and Arts, 1*(10), 1451-1465. https://doi.org/10.17977/um064v1i102021p1451-1465

Hamidah, F. N., & Prystiantanta, N. C. (2023). Lecturers' perception in using YouTube for teaching ESP*. Linguistic, English Education and Art (LEEA) Journal, 6*(2), 353-359. https://doi.org/10.31539/leea.v6i2.5813

Hayikaleng, N. (2018). *The effects of utilizing YouTube on LOTS and HOTS questions in reading comprehension and motivation among Thai students* [Doctoral dissertation, Universiti Utara Malaysia]. UUM Electronic Theses and Dissertation. https://etd.uum.edu.my/7495/

Keller, J. M. (2010). *Motivational design for learning and performance: The ARCS model approach.* Springer.

Li, D. (2022). Psychological emotion and behavior analysis in music teaching based on the attention, relevance, confidence, and satisfaction motivation model. *Frontiers in Psychology,* 13, 917476. https://doi.org/10.3389/fpsyg.2022.917476

Mayer, R. E. (2009). *Multimedia learning (2nd ed.)*. Cambridge University Press.

Maziriri, E. T., Gapa, P., & Chuchu, T. (2020). Student perceptions towards the use of YouTube as an educational tool for learning and tutorials. *International Journal of Instruction, 13*(2), 119-138. https://doi.org/10.29333/iji.2020.1329a

Momdjian, L., & Chidiac, F. E. (2024). Enhancing English reading comprehension of ESL underachievers by fostering metacognitive strategies. *Theory and Practice in Language Studies, 14*(1), 21-30. https://doi.org/10.17507/tpls.1401.03

Nguyen, Q. N., & Hien, L. T. D. (2023). Factors affecting YouTube acceptance for student learning needs. *International Journal of Emerging Technologies in Learning (iJET), 18*(23), 99-114. https://doi.org/10.3991/ijet.v18i23.41647

Ni, A., Cheung, A. C. K., & Shi, J. (2022). Effects of educational technology on reading achievement for Chinese K-12 English second language learners: A meta-analysis. *Frontiers in Psychology, 13*, 1025761. https://doi.org/10.3389/fpsyg.2022.1025761

Pribadi, B. A., Limbong, A. M. N., Karim, M. F., & Kadarisman, K. (2021). Implementing the ARCS motivational instructional design model to improve learning support of distant learning students. *Akademika*, *10*(02), 393-403. https://doi.org/10.34005/akademika.v10i02.1455

Rosenthal, R. (1991). *Meta-analytic procedures for social research* (Rev. ed.). SAGE Publications. https://doi.org/10.4135/9781412984997

Samat, M. S. B. A., Ghaffar, M. B. A., Manickam, R., & Yunus, M. M. (2019). Virco to enhance reading comprehension. *Multilingual Academic Journal of Education and Social Sciences, 7*(1), 57–67. https://doi.org/10.46886/MAJESS/v7-i1/5940

Sari, N., Astuti, D. S., & Sahrawi, S. (2021). An analysis of ARCS model in English as a foreign language. *Journal of English Language Teaching and Education (JELTE), 2*(2), 56-69. https://doi.org/10.31571/jelte.v2i2.73

Shoufan, A., & Mohamed, F. (2022). YouTube and education: A scoping review. *IEEE Access, 10,* 125576-125599. https://doi.org/10.1109/ACCESS.2022.3225419

Singh, K. K. M., Leong, I. Y. C., Bee, A. A. M., Lourdunathan, J., Keat, Y. C., & Rahmat, N. H. (2023). The relationship between reading difficulties and reading strategies among ESL learners in Malaysia. *International Journal of Academic Research in Business and Social Sciences, 13*(5), 2120 – 2140. https://doi.org/10.6007/IJARBSS/v13-i5/17035

Truong, N. K. V., & Le, Q. T. (2022). Utilizing YouTube to enhance English speaking skill: EFL tertiary students' practices and perceptions. *AsiaCALL Online Journal, 13*(4), 7-31. https://doi.org/10.54855/acoj.221342

Zhou, Q., Lee, C. S., Sin, S. J., Lin, S., Hu, H., & Ismail, M. (2020). Understanding the use of YouTube as a learning resource: A social cognitive perspective. *Aslib Journal of Information Management*, *72*(3), 339-359. https://doi.org/10.1108/ajim-10-2019-0290