Original Researcher Article

A Comparative Study Of How Multimodal Learning Approaches Affect English Language Skills In Higher Vocational Education

Zhang ling* [1], **Amrita Ghosh** [2]

[1]Lincoln University College, Petaling jaya Selangor Malaysia)

[2]Lincoln University College, Petaling jaya Selangor Malaysia
Corresponding Author
Zhang ling
Lincoln University College, Petaling jaya Selangor Malaysia

ABSTRACT

This research looks at how multimodal learning modalities affect students' English language abilities in higher vocational education. The research looks at why it's important for teachers to be good with technology and what happens when they use these methods. In view of the growing integration of technology into the instructional frameworks of educational institutions, it is of the highest significance to research the influence that multimodal approaches have on the increase of students' language ability. Vocational students need to learn how to read, write, talk, and listen. The goal of this project is to look at and compare different multimodal techniques for teaching those abilities. These strategies leverage digital resources that are interactive, visual, and audio. The results show that pupils are significantly more engaged in learning a language and learn it quicker when their instructors are very good with technology and employ a variety of teaching methods. When teachers utilise digital tools and resources well in the classroom, students frequently learn languages better. This makes classes more interesting and focused on the student. On the other hand, it was found that teachers who aren't good with technology are less likely to be able to use multimodal techniques to their full potential. This research shows how important it is for teachers to keep learning new things in order to become better at using technology. In order to successfully use new ways of learning, this is a need that must be satisfied. The research gives teachers and policymakers vital information that they can utilise to help them make English language education better in vocational contexts. These ideas come from looking at schools where instructors have different levels of digital skills. The results show that students in higher vocational education programs may improve their English abilities by using multimodal learning with the help of instructors who are good with technology

Keywords Multimodal Learning, Higher Vocational Education Programs, English As a Second Language (ESL), Instructional Design, Digital Skills....

1. INTRODUCTION:

The ability to comprehend auditory information is an essential skill for those intending to pursue academic careers. Conventional listening training has many constraints that render it inadequate for fully addressing students' requirements. Recent advancements in educational technology and insights from cognitive psychology have facilitated the increasing popularity of multimodal teaching as an innovative instructional strategy. The objective of multimodal education is to enhance the engagement and immersion of students in English studies via the use of several sensory modalities. English language acquisition has become an essential component of contemporary vocational higher education programs due to the language's extensive applicability (Lu, 2023). The enhancement of students' English language proficiency is now the primary emphasis of educational research at higher vocational institutions. This is implemented to enhance students' training at these institutions. A fundamental principle of the current initiative to enhance English teaching is the integration of auditory, visual, and experiential learning modalities to more effectively prepare students for communication in English. The digitisation of online education has become a significant concern in educational policy discussions, leading academics to allocate substantial resources towards developing universally applicable learning methodologies. A robust foundation is established in vocational high school, serving as a catalyst for further education. Students who finish this program was well equipped for either further education or employment. This vocational school offers programs in agricultural sciences, mechanics, accountancy, tourism, electronics, chemistry, and other disciplines. Widely used English as a second language (ESL) resources often include cultural education within their objectives and materials. They may serve as valuable tools for pupils preparing to study English in an unfamiliar setting (Al-Jarf, 2024). Furthermore, they may facilitate the acquisition of cultural identity in conjunction with language education. Educators using a multimodal approach use several tools to build lesson plans. Multimodality substantially improves English language competency. Multimodal education significantly benefits ESL students by improving their vocabulary, writing, and comprehension abilities. Students are more inclined to acquire and retain new vocabulary when using learning strategies that include visual, aural, and interactive elements. Students who invest time in

English language enhance their ability to articulate oneself in writing. A variety of chances for students to use English in diverse circumstances are offered (Yang, 2022).

1. BACKGROUND OF THE STUDY

To be able to get into a higher vocational school, the researcher need to be able to speak English fluently if the researcher want to obtain a job in today's job market. If the researcher want to acquire a job, the researcher need to take English classes. Both the fast advancement of technology and the internationalisation of the economy have contributed to the realisation of this possibility. In the past, English studies at vocational schools have always been taught via lectures and a significant amount of reading from textbooks. Students are unlikely to be interested in learning a language as a result of this, and it becomes challenging for them to do so. As a result of this, there is an increasing need for innovative instructional strategies that not only assist students in enhancing their language skills but also can accommodate the various ways in which individuals acquire knowledge (Harchegani & Sherwani, 2021).

One of the most innovative and creative approaches to teaching language is to teach it via a variety of various modes of communication. This approach makes use of a variety of sensory inputs, including those that are visual, aural, kinaesthetic, and digital and others. The instructional framework in question does not just rely on standard text. Additionally, it enables to take use of graphics, music, movement, and interactive technologies in order to make learning more enjoyable and relevant to the student's life. According to a number of theoretical frameworks, multimodal techniques are beneficial for language learning since they assist with understanding, remembering, and putting what have studied into practice (Li, 2022).

Higher vocational education is an excellent setting for conducting research on the effectiveness of multimodal modes of learning due to the significance of the industry as a whole and the significant amount of focus placed on the development of practical skills. Despite the fact that it seems that multimodal and traditional training methodologies can be effective in this environment, there is not a lot of research that compares how well they operate in this situation. This research aims to explore the effectiveness of several multimodal tactics in enhancing students' listening, speaking, reading, and writing abilities. According to Bubchaiya and Sukying (2022), the researchers have expressed their optimism that the results would have a significant impact on future attempts to enhance both classroom teaching and vocational education (Bubchaiya & Sukying, 2022).

2. PURPOSE OF THE RESEARCH

The purpose of this research is to determine the level of English language proficiency that students who are enrolled in higher vocational education programs have achieved following the implementation of multimodal learning strategies. In light of the expanding significance of fluency in English in both commercial and international settings, there is a pressing need for research on innovative methods of education that have the potential to enhance the performance of students. A comparison is made between traditional methods of instruction and multimodal educational techniques in this study. The purpose of this comparison is to determine which method is superior in terms of enhancing students' skills in the areas of hearing, speaking, reading, and writing. There are many different modes of communication that are used in methods. Some of these modes include visual, auditory, textual, and interactive digital resources. The purpose of this research is to provide light on how multimodal education may be able to meet the needs of a large number of students, boost engagement, and improve language performance. This can be accomplished by comparing various different ways that are used inside a single vocational school. It is possible that educators and lawmakers may make use of them in order to get a better understanding of how the use of multimodal approaches to English teaching could potentially benefit vocational education programs.

3. LITERATURE REVIEW

As globalisation and new technologies make the globe more accessible to everyday people, being able to speak and write English well is becoming more and more vital. The globe is becoming bigger all the time, which is why this is happening. In these different classroom settings, where students come with their own unique cultural, linguistic, and pedagogical baggage, the need for English language education would skyrocket to an all-time high. This would be true, especially when talking about things that have to do with the English language. So, according to this school of thought, teachers should employ collaborative strategies and model learning to help students become better at English and get more involved in the classroom. The goal of this review of research is to look at how these approaches affect students' English language skills and level of interest by looking at the pros and cons of using them in different classroom contexts (Pintado & Fajardo, 2021).

A language-learning software that uses auditory, visual, and kinaesthetic learning is an example of a multimodal learning approach. These tactics take into account that everyone learns in their own way by changing their approaches to fit the needs of each student. They could even think of using a lot of different channels to collect and analyse data at the same time as a way to improve language acquisition. A lot of study and analysis has been done on how multimodal learning techniques might help students improve their English skills in different types of classrooms. Chen and Sun (2019) say that the multimodal language-teaching method is an important part of helping English language learners (ELLs) improve their vocabulary, speaking, and listening abilities. The method in issue uses a lot of various tools, such as gestures, pictures, and sound effects (Chen & Sun, 2019).

According to research by Zhou and Wei (2020), ELLs who have special needs, including learning difficulties or hearing problems, benefit greatly from using multimodal learning methods. This is true for both how involved they are and how well they learn the language. Using visual aids has been shown to help ELLs who are having problems learning and remembering more of the material they are given (Zhou & Wei, 2020). ELLs who are deaf or hard of hearing may benefit from learning

their communication and language skills. Even so, teachers may have trouble figuring out how to do things with pupils from different backgrounds. One of the biggest problems they have is that they don't have enough money or technology to support the new multimodal teaching methods. Some courses and schools don't have the money to use multimodal education, which is too bad. Even while these resources, including a projector and other multimedia tools, are very helpful, there are instances when the researcher can't get to them. Also, teachers may require a lot of help and training to come up with and use the right multimodal teaching methods so that they may provide their students the best education possible. It is possible that this assurance is not available in certain regions (Promluan & Sukying, 2021).

4. RESEARCH QUESTIONS

How does a teacher's digital competency influence students' English language proficiency?

5. RESEARCH METHODOLOGY

6.1 Research Design:

The quantitative data analysis used SPSS version 25. The odds ratio and 95% confidence interval were used to determine the strength and direction of the statistical association. The researchers set a statistically significant criterion of $p < 0.05$. A descriptive analysis was conducted to determine the key aspects of the data. Quantitative approaches are often used to evaluate data obtained from surveys, polls, and questionnaires, as well as data modified by computational tools for statistical analysis.

6.2 Sampling:

Research participants completed questionnaires to provide information for the study. Utilising the Rao-soft software, researchers ascertained a study population of 587 individuals, prompting the distribution of 780 questionnaires. The researchers received 673 responses and removed 24 for incompleteness, resulting in a final sample size of 649.

6.3 Data and Measurement:

The major tool for data gathering in the study was a questionnaire survey. The survey had two sections: (A) General demographic data and (B) Responses regarding online and offline channel variables assessed using a 5-point Likert scale. Secondary data was obtained from many venues, mostly internet databases.

6.4 Statistical Software: The statistical analysis was performed with SPSS 25 and MS Excel.

6.5 Statistical Tools: Descriptive analysis was used to comprehend the essential nature of the data. The researcher must analyse the data with ANOVA.

6. CONCEPTUAL FRAMEWORK
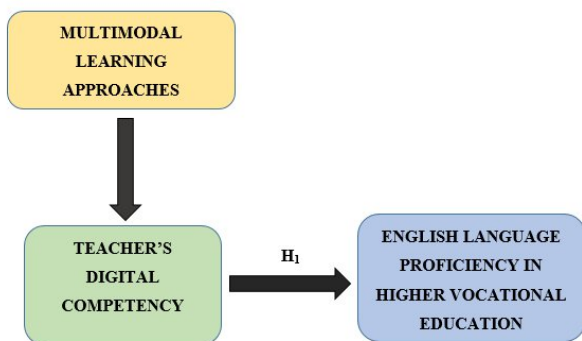
7. RESULT

- **Factor Analysis**

Factor Analysis (FA) is often used to look at the basic structure of a collection of measurement items. It is thought that hidden factors that are hard to find affect the scores of the observable variables. The FA method is based on a model. The main goal of this work was to find causal pathways that link visible occurrences, hidden causes, and measurement errors.

You may use the Kaiser-Meyer-Olkin (KMO) Method to see whether the data is suitable for factor analysis. We check to see whether the sample is big enough for each model variable and for the model as a whole. The statistics show how much common variance there could be across a lot of variables. Data with smaller percentages is frequently better for factor analysis.
KMO gives you whole numbers between 0 and 1. If the KMO value is between 0.8 and 1, the sample is considered good.

Remedial action is necessary if the KMO is below 0.6, indicating inadequate sampling. Employ the researcher's best discretion; some authors choose 0.5 for this purpose, resulting in a range of 0.5 to 0.6. A KMO score of 0 indicates that the partial correlations are substantial relative to the overall correlations. Component analysis is significantly impeded by strong correlations.
Kaiser's admission requirements are delineated as follows:

An unfavourable range of 0.050 to 0.059.

The standard range for a medium grade is 0.70 to 0.79.

Demonstrating a quality point value ranging from 0.80 to 0.89.

The interval between 0.90 to 1.00 is quite significant.

Table 1: KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.982
Bartlett's Test of Sphericity	Approx. Chi-Square	3252.968
	df	190
	Sig.	.000

The importance of the correlation matrices was also validated by Bartlett's Test of Sphericity. The KMO sampling adequacy is 0.982. Utilising Bartlett's sphericity test, researchers obtained a p-value of 0.00. The results of Bartlett's sphericity test indicated that the correlation matrix is not valid.

- **INDEPENDENT VARIABLE**

❖ **Multimodal Learning Approaches:**

"Multimodal learning approaches" in current educational literature means using a variety of learning channels, such visual, auditory, kinaesthetic, and textual channels, in the classroom to help students learn better and more. These channels may be written, visual, or auditory. These strategies employ interactive techniques and media to focus on meeting a broad range of cognitive processes and learning styles. Using these approaches helped to do this work successfully. Multimodal learning goes beyond using a lot of different teaching tools to get as many students as possible to participate and comprehend. This is done to provide them the best chance to learn. This instructional design, which is meant to help the researcher reach a certain objective, brings together a number of different ways to communicate and portray things. Recent research in the field has come to a general agreement on a widely accepted idea: multimodal learning takes into consideration the many ways that people learn and tries to mimic the way that people communicate in the actual world. Many people agree with this viewpoint. Students may learn more about a topic by doing things with their bodies, looking at graphs and diagrams, hearing explanations, and reading directions. For instance, in a classroom setting, students may learn something using these approaches (Zhang et al., 2023). Teachers employ a lot of different symbolic systems, such words, images, gestures, and spatial arrangements, to make sense of what students say and do. All of these ways of talking to one other are part of these systems. Multimodal learning is when the researcher learn in more than one way. This strategy is widely utilised in digital learning environments to improve the overall learning experience and meet the needs of a broad variety of learning types. Digital storytelling, interactive simulations, instructive movies, and online tools for working together on projects are all types of multimedia platforms. These are just a handful of the many multimedia platforms out now. The definitions of multimodal learning show a move away from static, one-dimensional ways of teaching and towards more dynamic, learner-centred ways of teaching. These definitions are distinguished by their inherent adaptability and flexibility. It fits with constructivist and cognitive theories, which say that students learn best when they interact with the material in a manner that uses all of their senses and includes different types of engagement. These explanations fit with these principles (Huang et al., 2023).

❖ **FACTOR**

- **Teacher's Digital Competency**

The notion of a teacher's digital competency has grown increasingly important since schools all over the world are using more and more digital tools and platforms. This skill is about how well teachers can utilise digital technologies in the classroom. It is the capacity to use technology well. This skill includes not just the technical know-how to use digital tools, but also the teaching skills to use these technologies in a manner that makes learning easier for students. "Digital competence" is a term that describes a lot of the skills that a teacher has to have in order to do their job well. One of these skills is being able to read, write, communicate, and listen well in digital settings. Other abilities include knowing how to make and carry out effective digital assessments, and last but not least, knowing how to use digital technology in a way that is morally right (Zhang et al., 2021). It also means knowing how to incorporate students in digitally mediated environments, which are circumstances where technology is used to improve communication, cooperation, and analysis. It also includes knowing how to get kids involved in these settings. Teachers who know a lot about digital technology may look at and change the material that is accessible online so that it meets the needs of students with different levels of ability. They may also make classrooms that are inclusive to all kids and encourage their pupils to become better at using technology. Also, teachers that are good with technology make sure to stay up to speed on the latest business trends and often examine how they are using technology in the classroom. Teachers in higher vocational programs need to know how to use digital technology well so that they can prepare their students for jobs that require a lot of technology, teach their students how to use digital tools to model real-world situations, and make sure that their digital lessons meet the needs and standards of the industry. There is a big need for

...d with technology since all parts of the economy require pupils to be able to utilise technology well at work (Castañeda & Williamson, 2021).

❖ **DEPENDENT VARIABLE**

• **English Language Proficiency in Higher Vocational Education :**

In the context of higher vocational education, the term "ELP" refers to the capacity to comprehend, analyse, and utilise English in a way that meets the language needs of one's specific academic or professional sector. This is what the word means. In the academic world, the word "ELP" refers to a group of skills, some of which include cognitive-linguistic and sociolinguistic. In the context of vocational education, it includes the following skills: the ability to communicate technically, the ability to read and critically analyse scientific and manual literature, the ability to write reports for professionals, and the ability to actively listen in technical lectures and team projects. Not only is ELP checked for grammatical correctness in this conversation, but it is also checked for functional adequacy. When it comes to studying English, "functional adequacy" is how well students can use English to do activities related to their jobs, talk to co-workers, and understand and follow the company's rules and regulations. The ELP is distinct from other vocational education programs because it requires students to satisfy both broad and narrow language requirements. This is to make sure that the students' language skills are as good as what is required of experts in the same sector (Xiangyu, 2023).

• **Relationship Between Teacher's Digital Competency and English Language Proficiency in Higher Vocational Education**

The amount of English that students at higher technical schools are required to learn is strongly related to how much technology teachers may use in the classroom. This is because instructors who are very good with technology are more likely to be able to employ a wide range of materials in their classes, which makes them more accessible and interesting for their pupils. Teachers that are very good with technology may create and teach courses that use a variety of digital tools, such as interactive applications, learning management systems, online resources, and multimedia presentations. Teachers helped students improve their language skills in real-world job situations, which helped them flourish. Teachers who utilised technology well in the classroom provided their students chances to practice speaking, listening, reading, and writing in English by showing them real-life examples in films, podcasts, simulations, and online forums. Also, instructors who are good with digital technology have been able to make lessons more interesting and fit them to students' needs in practical courses where students' levels of English proficiency vary widely (Wu et al., 2022). Changing the course materials to meet the specific requirements of each vocational school student has made this possible. These instructors gave them opportunities to study together, which directly led to improvements in both their confidence and their understanding of English. These forums got the kids talking and becoming involved. The instructors' ability to provide quick feedback utilising digital technology helped students become better at speaking and writing over time. This showed how important it is to use language correctly and helped students pinpoint areas where they might improve. When instructors demonstrated that they knew how to utilise technology, students' digital literacy grew and they were encouraged to use digital tools on their own to practice and improve their language abilities outside of school. The goal of this was to help youngsters become better at using language in general. This happened because these professors could show students how to utilise technology correctly to learn a language. This freedom enabled students take an active role in their own learning (Salamanti et al., 2023).

Based on the above discussion, the researcher established the following hypothesis to examine the link between teachers' digital competency and English language proficiency in higher vocational education.

"H$_{01}$: There is no significant relationship between Teacher's Digital Competency and English Language Proficiency in Higher Vocational Education."

"H$_1$: There is a significant relationship between Teacher's Digital Competency and English Language Proficiency in Higher Vocational Education."

Table 2: H$_1$ ANOVA Test

ANOVA					
Sum					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	77326.245	152	4726.394	687.561	.000
Within Groups	753.267	496	8.159		
Total	78079.512	648			

In this study, the result is significant. The value of F is 687.561, which reaches significance with a *p*-value of .000 (which is less than the .05 alpha level). This means the *"H$_2$: There is a significant relationship between Teacher's Digital Competency and English Language Proficiency in Higher Vocational Education"* is accepted and the null hypothesis is rejected.

9. DISCUSSION

This study project looked at how multimodal learning techniques affect the English language skills of students in higher vocational education. One of the main things that was looked at was how important it is for instructors to be good with computers. The whole study employed quantitative research methodologies and simple random sampling. The study's results showed that the students' reading, writing, speaking, and listening skills became a lot better when they used digital information that was visual, auditory, and interactive. The students also indicated that they were more engaged in the material and that they understood it better when it was delivered to them in this way. Teachers who were very good at using digital platforms,

s, and having a wide range of materials to choose from to meet the needs of students with different learning styles were linked to better performance in the classroom. Research found this out. Teachers who were good at using digital tools might make their classes come to life by using digital storytelling, virtual simulations, and group activities. By doing this, they gave their students a lot of opportunities to become better at English, which helped their self-esteem and got them ready for situations they would face in real life. On the other hand, kids were less interested in learning and had a harder difficulty picking up new abilities since instructors didn't know how to employ multimodal learning strategies appropriately. Because of this, it was harder for kids to master new skills. A statistical study found that using multimodal educational methodologies is linked to pupils being better at English. This happened when the teachers' understanding of technology acted as a go-between. Because the findings were achieved using a simple random selection approach, they are more relevant to higher vocational settings as a whole. This was done to make sure that all of the departments were well represented. Even though these results show how important it is for teachers to learn digital skills in order to make the most of these methods, they also support earlier research that suggested that multimodal learning might be able to meet the needs of a wide range of students. The findings of this study add to the expanding body of evidence that shows how helpful it is for English language teachers to use multimodal learning methods together with strong institutional support to improve their digital skills. This body of data is already growing, and the results of this research add to it. It is extremely important to place a lot of emphasis on teaching teachers digital skills so that they can fully use the benefits of multimodal learning and help students in higher vocational programs improve their English skills. Vocational education prepares students to meet the requirement for language skills in the workplace, which is very important since there is a rising need for these skills in professional settings.

10. CONCLUSION

The findings of this research indicate that when instructors in higher vocational programs are proficient with computers, the English skills of their pupils significantly improve. In the areas of vocabulary, hearing, speaking, and writing, the findings demonstrated that students who studied using multimodal approaches performed much well than those who learnt through regular methods. Both quantitative methodologies and a simple random sample approach were used in the research project in order to get these findings. Teachers are need to be able to make use of digital tools in order for multimodal learning to be successful. Teachers that are proficient with technology may be able to assist in making classes more engaging and individualised for each individual student. The study also demonstrates how essential it is for students to have a solid understanding of digital competence. This is because it is essential for them to be able to use multimodal learning approaches in order to properly engage with new skills and gain new abilities. Professional development programs that provide instructors with the digital tools they need to implement multimodal strategies in ESL instruction should be the primary focus of vocational and technical institutions. This is due to the fact that these studies have shown that initiatives of this kind are of great significance. Students who get instruction in a multimodal manner from teachers who are very proficient in digital literacy are better prepared to deal with the challenges that are faced by companies in the modern day, when the ability to speak English fluently is of utmost importance. According to the findings, students who are enrolled in vocational programs have a wide variety of educational requirements, and it has been shown that students who engage in many modes of education are better equipped to meet these requirements

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