The Impact of Multimodal Learning Approaches on English Language Proficiency in Higher Vocational Education: A Comparative Study

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ABSTRACT

This research is to investigate how multimodal learning approaches affect English language proficiency of students in higher vocational education by means of metacognitive awareness as a moderating factor. Reacting to the increased need for fluent English in occupational and global job situations, educational institutions are using a number of instructional methodologies to improve language learning results. Using visual, auditory, literary, kinaesthetic, aspects is known as multimodal learning. It provides a flexible and inclusive structure appropriate for different approaches of learning. This study examined the efficiency of multimodal and conventional, unimodal approaches of teaching English language competency using a comparative design. Standardised tests evaluate students' English competency in all four spheres: reading, writing, hearing, and speaking. Moreover, investigated in the paper is the possible influence of metacognitive awareness on the relationship between different learning environments and linguistic results. Competency exams, metacognitive awareness tests, and classroom observations help to compile data. With regard to proficiency scores, students who participate actively in multimodal learning settings and who are highly self-aware seem to have a noticeable advantage. These children are inherently good at selecting the right approaches, tracking their development, and adjusting to different language challenges. Research findings show that students' metacognitive awareness increases the efficiency of multimodal strategies for English language learning. The results highlight the importance of educating students to use metacognitive approaches to increase their engagement and language proficiency and multimodal instructional design in vocational education programs. This study provides concrete data for curriculum designers, educators, and legislators to help close the gap between the requirements of global communication and vocational training.

Keywords: Multimodal Learning, Metacognitive Awareness, English Language Proficiency, Vocational Education, Linguistic Results, Curriculum Designers

INTRODUCTION

The capacity to understand what one is hearing is a crucial talent for pupils planning to work in academic fields. Traditional listening instruction, however, has a number of limitations that make it ill-suited to meeting students' needs in their entirety. Recent advances in educational technology and findings from cognitive psychology have contributed to the rise in popularity of multimodal teaching as a novel method of instruction. The goal of multimodal education is to make studying English a more engaging and immersive experience for students by using many sensory modalities. Examining the effects of multimodal education on students' hearing comprehension and motivation to learn is the goal of this research as it pertains to English listening classes at the upper vocational college level. Learning English has become a mandatory part of today's vocational higher education programs because of the language's widespread practicality (Lu, 2023). Improving students' English language abilities is now the main focus of educational research at higher vocational colleges. This is done to better equip students with the necessary training at these institutions. A key tenet of the present movement to improve English education is the idea of integrating aural, visual, and practical learning modalities to better equip students to communicate in English. Online education and its digitisation have emerged as major issues in educational policy deliberations, prompting researchers to devote considerable resources to the problem of creating globally applicable learning approaches. A strong foundation is laid in vocational high school, which may be used as a springboard to future education. Students who complete this program will be well-

prepared for either college or the job. Vocational agriculture, mechanical, accounting, tourism, electronics, chemistry, and other fields are among those given by this vocational school. Popular English as a second language (ESL) resources often include learning culture in their aims and sources. They might be helpful resources for students preparing to learn English in an unfamiliar environment (Al-Jarf, 2024). In addition, they may be used to learn one's cultural identity alongside language training. Educators who use a multimodal approach use a variety of tools to create lesson plans. The use of multimodality significantly enhances proficiency in the English language. Multimodal instruction has many positive effects on ESL pupils, including enhanced vocabulary, writing, and comprehension skills. Students are more likely to learn and remember new words when they use learning methodologies that include visual, auditory, and interactive components. If students take the time to learn every aspect of the English language, they become better equipped to express themselves in writing. Lots of different opportunities for pupils to utilise English in different contexts are provided (Yang, 2022).

BACKGROUND OF THE STUDY

Students who are applying to higher vocational programs need to show that they are able to communicate effectively in English in order to be competitive in the employment market that exists today. The fast growth of technology and the internationalisation of the economy have both contributed to the realisation of this possibility. Classes in English that are offered at vocational institutes have traditionally been lecture-based and heavily rely on textbooks. As a consequence of this, there is going to be a lack of student interest, and the learning of language is bound to be stressful. Therefore, there is an increasing desire for novel pedagogical techniques that not only assist students in improving their language skills but also accommodate to the diverse learning styles that they possess (Harchegani & Sherwani, 2021).

Learning via several modes of communication is a method to language training that is genuinely unique and inventive. The visual, aural, kinaesthetic, and digital inputs are some of the different sensory inputs that are included into this technique. In addition to the use of ordinary text, this instructional framework supports the use of images, music, movement, and interactive technology in order to make learning more interesting and pertinent to the learner's life. Multimodal techniques are regarded to be beneficial to language learning in terms of understanding, memorisation, and practical application, according to some theoretical frameworks. This should be accomplished by encouraging kids to take initiative and engaging all of their senses (Li, 2022).

Considering the significance of the industry as well as the significant focus placed on the development of practical skills, higher vocational education offers an excellent environment for the investigation of the effectiveness of multimodal learning approaches. There is a paucity of information that compares the efficacy of multimodal and traditional methods of training in this specific environment, despite the fact that it shows a great deal of promise. By researching the impacts of multimodal learning on English language proficiency at vocational postsecondary institutions, the purpose of this research is to address a vacuum in the knowledge of the topic. The purpose of this study is to investigate the many multimodal strategies in order to evaluate whether or not they substantially improve the listening, speaking, reading, and writing abilities of pupils. According to (Bubchaiya & Sukying, 2022), the authors of the research have expressed their expectation that the results would significantly impact subsequent attempts to enhance both classroom teaching and vocational education.

PURPOSE OF THE RESEARCH

The aim of this study is to find the degree of English language competency attained by students registered in higher vocational education after multimodal learning approaches are used. Given the growing importance of fluency in English for both business and international environments, research on creative approaches of instruction that can improve student

performance is much needed. This paper compares conventional methods with multimodal educational approaches to ascertain whether one is better in terms of improving students's abilities in the domains of hearing, speaking, reading, and writing. Visual, aural, textual, and interactive digital resources are among the numerous ways of communication used in approaches. This study aims to shed light on how multimodal education may be able to fit the demands of many learners, increase engagement, and enhance language performance by means of the comparison of several distinct approaches within a single vocational school. Teachers and legislators might utilise them to better grasp how the usage of multimodal methods to English instruction could perhaps help vocational education programs.

LITERATURE REVIEW

Having a strong command of the English language is becoming more important in today's society as a result of the ways in which globalisation and technological advancements are bringing the world closer to the common person. The reason for this is because the size of the world is continually increasing. Within these various classroom contexts, where students bring their own distinct pedagogical, cultural, and linguistic baggage, the demand for English language teaching would surge to an unprecedented level. This would be the case, in particular when talking about anything related to the English language. Therefore, according to this school of thinking, in order to improve students' English proficiency and increase their level of participation in the classroom, instructors should use collaborative tactics and weave model learning. The purpose of this research review is to investigate the impact of these methods on the English language abilities and engagement of students by examining the possible benefits and drawbacks of these tactics in a variety of classroom settings (Pintado & Fajardo, 2021).

As an example of a multimodal learning technique, take into consideration a language-learning program that integrates auditory, visual, and kinaesthetic learning. By adapting their strategies to the specific preferences of each individual learner, these strategies take into consideration the fact that individuals have a variety of approaches to acquiring information. As a potential method for enhancing language learning, they may even take into consideration the use of many channels for the purpose of simultaneously gathering and analysing data. The usefulness of multimodal learning strategies in enhancing students' English proficiency in a variety of classroom settings has been the topic of a substantial amount of research and analysis. (Chen & Sun, 2019) assert that the multimodal language-teaching technique is an essential component in assisting English language learners (ELLs) in enhancing their skills in the areas of hearing, speaking, and vocabulary. The approach in question makes use of a variety of different tools, including gestures, visual aids, and sound effects. Research carried out by (Zhou & Wei, 2020) indicates that ELLs who have unique requirements, such as those arising from learning disabilities or hearing impairments, benefit tremendously from the use of multimodal learning methodologies. This is true in terms of both the level of engagement they experience and the outcomes of their language acquisition. The use of visual aids has been demonstrated to be beneficial for ELLs who are having trouble learning and retaining more of the information that is being given to them. According to Zhou & Wei, 2020), ELLs who are deaf or hard of hearing may benefit from receiving education in sign language in order to enhance their communication and language abilities. In spite of this, it may be difficult for educators to understand how to execute them with students who come from a variety of backgrounds. The lack of sufficient financial resources and technological resources to support the new multimodal pedagogies is one of the most significant challenges that they face. It is regrettable that some classes and institutions do not have the resources necessary to adopt multimodal education. There are times when the researcher do not have access to these resources, which include a projector and several other multimedia tools, despite the fact that they are really beneficial. In addition, in order for educators to be able to give educators with highly effective education, they may need sufficient assistance and training in order to create and implement appropriate multimodal teaching methodologies. There is a possibility that this guarantee is not accessible in some areas Promluan & Sukying, 2021).

RESEARCH QUESTIONS

- What is the level of metacognitive awareness among students in higher vocational education?

RESEARCH METHODOLOGY

Research Design

The quantitative data analysis used SPSS version 25. The odds ratio and 95% confidence interval were used to determine the degree and direction of the statistical association. The researchers established a statistically significant criteria at $p < 0.05$. A descriptive analysis was conducted to identify the main features of the data. Quantitative methods are often used to assess data acquired via surveys, polls, and questionnaires, together with data altered by computing tools for statistical analysis.

Sampling

Research participants filled out questionnaires to provide information for the research. Using the Rao-soft programme, researchers determined that there were 587 people in the research population, so researchers sent out 780 questionnaires. The researchers got 673 back, and they excluded 24 due to incompleteness, so researchers ended up with a sample size of 649.

Data and Measurement

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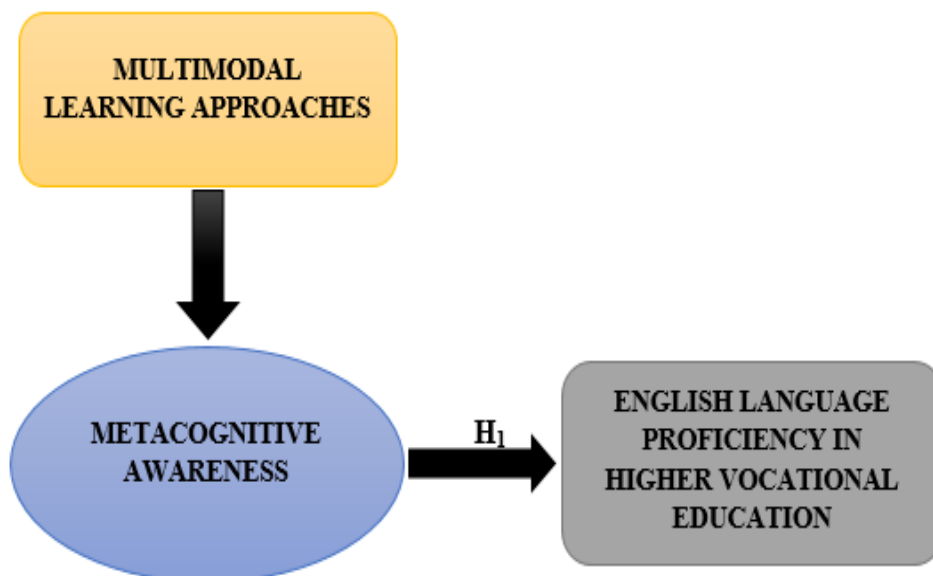
Statistical Software

The statistical analysis was conducted using SPSS 25 and MS-Excel.

Statistical Tools

To grasp the fundamental character of the data, descriptive analysis was used. The researcher is required to analyse the data using ANOVA.

CONCEPTUAL FRAMEWORK

RESULT

- **Factor Analysis**

Verifying the foundational component structure of a collection of measurement items is a common use of Factor Analysis (FA). The scores of the observed variables are thought to be affected by latent factors that are not readily observable. The accuracy analysis (FA) method is a model-driven methodology. This research primarily focusses on constructing causal pathways that link observable events, hidden causes, and measurement errors. The suitability of the data for factor analysis may be evaluated using the Kaiser-Meyer-Olkin (KMO) Method. The sufficiency of the sample for each specific model variable and the overall model is evaluated. The statistics measure the degree of potential shared variation among several variables. Data characterised by smaller percentages is often more appropriate for factor analysis.

KMO yields integers ranging from zero to one. Sampling is considered sufficient if the KMO value is between 0.8 and 1.

Remedial action is required if the KMO is below 0.6, indicating insufficient sampling. Exercise the researcher best judgement; some writers utilise 0.5 for this purpose, hence the range is 0.5 to 0.6. A KMO value around 0 indicates that the partial correlations are substantial relative to the overall correlations. Component analysis is significantly impeded by substantial correlations.
Kaiser's thresholds for acceptability are delineated as follows:

A bleak range of 0.050 to 0.059.

0.60 - 0.69 subpar

Standard range for a middle grade: 0.70 to 0.79.

Possessing a quality point value ranging from 0.80 to 0.89.

The interval from 0.90 to 1.00 is quite remarkable.

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 overall importance of the correlation matrices was also validated by Bartlett's Test of Sphericity. The Kaiser-Meyer-Olkin sampling adequacy is 0.982. Utilising Bartlett's sphericity test, researchers obtained a p-value of 0.00. A notable result from Bartlett's sphericity test indicated that the correlation matrix is not valid.

- ❖ **INDEPENDENT VARIABLE**

- **Multimodal Learning Approaches:**

Learning via the integration of a variety of sensory modalities is referred to as multimodal learning, which is a method that makes learning more effective. Different modes are used to refer to the many methods in which fresh information is communicated. A growing number of

educators are using multimodal learning strategies in order to engage students who are able to remember knowledge most effectively via visual, aural, kinaesthetic, and verbal ways. When doing corporate training, it may be beneficial for businesses to make use of a variety of material formats in order to improve the learning outcomes for all workers (Zhang & Zou, 2022).

For the sake of illustrating my point, let's imagine that there is a training program that teaches salesmen more than simply how to close transactions by reading resources. The presentation of this course may make use of a number of different forms, such as slides that are based on text, images that support the most important ideas, a voice-over, and a role-play simulation. In the latter, students get the opportunity to see how clients respond to their communication strategy via the use of real-life reactions, facial expressions, and gestures (Alammary, 2022).

❖ **FACTOR**

• **Metacognitive Awareness**

Metacognition may be defined as the state of being self-aware while thinking. If the researcher want to improve the researcher ability to learn, reason, and find solutions to issues, this is the one tool the researcher absolutely need. The ability to independently choose and implement the most appropriate reading, writing, arithmetic, or learning approach is one example of this. Another example would be the ability to evaluate the needs of a job (Hidayat et al., 2024).

During their time spent studying, students of all ages may reap significant benefits from participating in metacognition. Not only does the process include accepting responsibility for one's actions, but it also involves critically reflecting on one's study habits and learning in light of one's own capabilities and inadequacies. On top of this foundation, students, learners, and even professionals have the opportunity to acquire the independence that is essential to master reading and writing on their own. It is possible that a student's metacognition has a role in determining the amount to which they are able to generalise solutions for effectively solving mathematical issues (Swanson & Dewsbury, 2024).

❖ **DEPENDENT VARIABLE**

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

Hearing, speaking, reading, and writing are the four skills that make up the English language, and if the researcher competent in English, the researcher have completely mastered all of them. It would be considered an operational definition of linguistic competency to be able to pass an English language proficiency exam with a minimum score. In order to become fluent in a language, it takes more time and effort than just speaking the language fluently (Xiangyu, 2023).

In order to have a successful personality, it is essential to have a strong command of the English language. If the researcher want to have more career alternatives, jobs that pay more, and more influence in the researcher area, the researcher need to be able to speak English if the researcher want to be able to communicate effectively. Reading and writing are the most effective avenues via which one may enhance their talents. The pronunciation of individuals whose first language is not English should be improved, with particular attention paid to key consonants in the English language. When it comes to becoming fluent in a language, the single most crucial thing is to have a large vocabulary. English, along with all of the other disciplines that are required, is a vital component of a well-rounded education (Stander et al., 2022).

➤ **Relationship Between Metacognitive Awareness and English Language Proficiency in Higher Vocational Education:**

The development of English language competence is dependent on metacognitive awareness, which is that which assists students in comprehending and exercising control over their own cognitive processes. This is especially true in higher vocational education.

Tracking, organising, and assessing one's own learning progress is of utmost importance for students who are enrolled in vocational programs. These students are often asked to use English in situations that are connected to the workplace and the real world.

One's ability to regulate their own cognitive strategies (through the use of planning, monitoring, and evaluation) and knowledge of cognitive strategies themselves (through the use of declarative, procedural, and conditional knowledge) are two of the most important components of metacognitive awareness. Students are better equipped to assess their own English proficiency, establish objectives that are attainable, and choose the most effective ways to manage activities such as reading technical books, creating reports, or speaking in the workplace when they have a strong knowledge of their own cognitive processes (Salamanti et al., 2023).

According to the findings of the research, there is a significant positive association between metacognitive awareness and fluency in the English language. Students that are more self-aware in their ideas, adjustments, and learning strategies have an advantage when it comes to language problems. Better self-directed learning and enhanced self-assurance while using English in real-world contexts are two of the outcomes that may be achieved via vocational education.

It is possible that the results of language acquisition might be significantly improved by encouraging metacognitive methods via the use of reflective diaries, self-assessment tools, and explicit teaching. Therefore, the development of metacognitive awareness is essential for the future academic and professional success of vocational students who are studying the English language via the English language program (Qiao et al., 2023).

On the basis of the above discussion, the researcher formulated the following hypothesis, which was analyse the relationship between Metacognitive Awareness and English Language Proficiency in Higher Vocational Education.

- *"H_{01}: There is no significant relationship between Metacognitive Awareness and English Language Proficiency in Higher Vocational Education."*
- *"H_1: There is a significant relationship between Metacognitive Awareness 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	79943.245	263	4852.267	724.365	.000
Within Groups	1845.318	385	13.485		
Total	81788.563	648			

This investigation yields remarkable results. The F value is 724.365, attaining significance with a p-value of .000, which is below the .05 alpha threshold. This signifies the *"H_1: There is a significant relationship between Metacognitive Awareness and English Language Proficiency in Higher Vocational Education"* is accepted and the null hypothesis is rejected.

DISCUSSION

It is one of the most important skills for success in today's globalised work market to be able to communicate effectively in English; this is especially true in connection to higher education that is focused on practical training. The purpose of this research is to investigate the impact that multimodal learning methodologies have on English language proficiency, with a specific focus on the important role that metacognitive awareness plays. In addition to increasing student knowledge and participation, multimodal learning caters to a variety of learning styles

by including aspects such as visual, auditory, textual, and kinaesthetic learning environments. In contrast, the level of metacognitive awareness that students possess has a major impact on how well they are able to use these tactics. Students are able to effectively negotiate and make the most of the numerous input modalities that are supplied by a multimodal learning environment when they possess metacognitive awareness, which is defined as the ability to organise, monitor, and assess their own learning. Those pupils who are able to assess their own learning processes, see areas in which they excel and those in which they may improve, and alter their perspective in response to various language problems are said to be highly metacognitive. This skill is very beneficial to students who are enrolled in vocational classes since these classes place an emphasis on the use of language in real-world settings. The students who had greater levels of metacognitive awareness benefited more from multimodal learning methodologies, despite the fact that all of the students increased their English language skills. Not only do they do better on language tests, but they also exhibit greater self-assurance and an increased willingness to take responsibility for their own education. In conclusion, the discussion demonstrates that students may be able to become more self-sufficient in occupational contexts and learn more effectively if they get training in metacognitive strategies and those strategies are combined with multimodal instructional design.

CONCLUSION

Last but not least, the results show that students who engage in higher-level vocational education courses using multimodal learning approaches have much improved English language competency. These techniques engage students' visual, auditory, textual, kinaesthetic senses, therefore fostering a greater degree of knowledge and a more pragmatic use of language in daily life. Improving the effectiveness of multimodal learning depends on the presence of a fundamental component: metacognitive awareness ability. Students' rising capacity for self-regulation of learning, the use of suitable strategies, and their capacity to adjust to various kinds of instruction and enhanced language competency clearly correlate. The results show that students who pay more attention to their metacognitive skills find multimodal learning most beneficial. This is so even if multimodal learning enhances language acquisition. Together with multimodal teaching strategies, the inclusion of metacognitive strategy training into vocational courses might help to create an English teaching style more focused on the student and more successful. This can assist students become more suited to communicate successfully in the real world as well as in their professional life, thereby improving their situation.

REFERENCES

1. Alammary, A. (2022). Multimodal learning in higher education: A systematic review. *Education and Information Technologies, 27*(1), 1–29.
2. Al-Jarf, R. (2024). Multimodal teaching and learning in the EFL college classroom. Journal of English Language Teaching and Applied Linguistics, 6(4), 68–75.
3. Bubchaiya, N., & Sukying, A. (2022). The effect of word part strategy instruction on the vocabulary knowledge of Thai primary school learners. Journal of Education and Learning, 11(5), 70−81.
4. Chen, H., & Sun, J. (2019). The effect of multimodal language teaching on EFL learners' vocabulary acquisition, speaking and listening skills. English Language Teaching, 12(4), 97-106.
5. Harchegani, M., & Sherwani, K. (2021). The impact of multimodal discourse on Iraqi EFL learners' writing skills. Turkish Journal of Computer and Mathematics Education (TURCOMAT), 12, 239−245.
6. Hidayat, H., Harmanto, D., Mohd Isa, M. R., Tanucan, J. C. M., Ahlunnazak, A. I., Ifdil, I., & Ardi, Z. (2024). Importance of metacognitive awareness in learning and instruction for engineering students' education. *Journal of Social Studies Education Research, 15*(1), 149–186.

7. Li, J. (2022). Multimodal Teaching of College English Based on Similarity. Mobile Information Systems, 2022.
8. Lu Y. (2023), An Empirical Study on the Effect of Multimodal English Vocabulary Teaching [D]. Fuyang Normal University.
9. Pintado, B. R., & Fajardo, T. (2021). Learning Idioms Through the Multimodal Approach. Learning, 12(24).
10. Promluan, Y., & Sukying, A. (2021). The Impact of Extensive Reading on Thai Primary School Children's Vocabulary Knowledge. Journal of Modern Learning Development, 6(5), 209−223.
11. Qiao, Y., Lv, N., & Zhang, J. (2023). Research on the multi-modal digital teaching model centered on higher vocational learners. Advances in Social Science, Education and Humanities Research, 709, 54–61.
12. Salamanti, E., Park, D., Ali, N., & Brown, S. (2023). The efficacy of collaborative and multimodal learning strategies in enhancing English language proficiency among ESL/EFL learners: A quantitative analysis. Research Studies in English Language Teaching and Learning, 1(2), 78–89.
13. Stander, L., Du Plooy, B., & Scheckle, E. (2022). "Some of them are afraid of the language": Perceptions of TVET college staff about the relationship between English language proficiency and academic performance among engineering students. South African Journal of Higher Education, 36(1), 233–253.
14. Swanson, H. J., & Dewsbury, B. (2024). The impact of a metacognitive intervention on student experiences and success in an academic probation program for first-year students. *Teaching & Learning Inquiry, 12*.
15. Xiangyu, K. (2023). The path of cultivating English core literacy in higher vocational education in the context of new curriculum standard. SHS Web of Conferences, 171, Article 02033.
16. Yang J. (2022), Types and Applications of digital resources in English Teaching [J]. Journal of Taiyuan City Vocational and Technical College,(10):133-136.
17. Zhang, Y., & Zou, D. (2022). Using multimodal learning analytics to understand students' learning experiences in language education. British Journal of Educational Technology, 53(4), 873–889.
18. Zhou, L., & Wei, R. (2020). Sign language in teaching English as a foreign language: An investigation of hearing-impaired students' English language performance. Journal of Language Teaching and Research, 11(2), 207-218.