



A Comparative Analysis of Vocabulary Development Strategies: A Dual Coding View of Pakistani ESL Learners

Correspondence:

Noor-ul-Ain
<noonlight232@yahoo.com>

MPhil Scholar, Department of English, University of Sargodha,
Sargodha, Punjab, Pakistan.

Dr. Azher Pervaiz
<azhar.pervaiz@uos.edu.pk>

Assistant Professor, Department of English, University of Sargodha,
Sargodha, Punjab, Pakistan.

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Abstract

This study aims to identify the most effective strategy for learning second language (L2) vocabulary, comparing traditional and audiovisual approaches. Additionally, the study examines quick and easy methods for learning L2 vocabulary, as well as Pakistani teachers' attitudes toward the use of audiovisual aids in English as a second language (ESL) classroom. To accomplish these goals, a quantitative research design was utilized. A quasi-experimental study was conducted in three government schools in the Sargodha district, involving 160 10th-grade students. Pre, post, and delayed post-tests were administered to measure the effectiveness and consistency of audiovisual aids. Additionally, data were collected from 50 high school English teachers through questionnaires, which were analyzed using SPSS-26 software, to explore their opinions and attitudes towards different L2 vocabulary development strategies. The study underscores the importance of dual coding, as outlined in Paivio's (1990) theory, for the recognition and retention of L2 vocabulary items in learners' long-term memory. The study also highlights the importance of incorporating technology-based learning into teaching practices. Ultimately, the study concludes that audiovisual aid strategies are more effective than traditional grammar-translation method (GTM) strategies for developing L2 vocabulary.

Keywords: vocabulary, grammar translation method, audio-visual aids, quasi-experimental study, dual coding theory

1. Introduction

Language serves as a crucial tool of communication for individuals to express their thoughts, ideas, and messages effectively. Members of a particular community are able to fully comprehend and communicate using their respective languages in order to engage in various activities. As of now, Earth is home to over 7,000 languages, not counting those that have already become extinct. Therefore, every society, community, or region has its own language. For example, in Pakistan, almost 70 to 80 languages are spoken, varying according to the community, region, and province.

Language begins with words, and individuals use hundreds and thousands of words each day for communication. Native speakers are typically considered experts in their language, yet they may sometimes struggle to find the most suitable word to express their thoughts, resulting in their thoughts remaining unspoken. Consequently, words are recognized as the fundamental building blocks for achieving language proficiency, and these basic building blocks constitute an individual's vocabulary. In the early 20th century, psycholinguistics and linguistics focused on vocabulary evaluation through multiple experiences. However, Chomsky's concept of generative grammar shifted attention from vocabulary to grammar. In the 1980s, theorists and linguists began to realize that vocabulary was a missing aspect of language. In recent years, there has been a resurgence of interest in vocabulary among linguists. According to many researchers in Second Language Acquisition (SLA), acquiring vocabulary is the most challenging aspect of becoming proficient in a second language, due to the immense difficulty of the task (Meara, 1995; Nation, 2001; Schmitt, 2010).

Ma (2009) uses the analogy of a building to describe language, where grammar represents the structure of the building and words are the bricks that make up the structure. Both the structure and the bricks are essential for the building. In the process of acquiring a language, vocabulary development is a crucial but challenging aspect. Insufficient vocabulary hinders students and inhibits their ability to communicate effectively in the target language. The process of learning L2 vocabulary begins with the first exposure to the language and continues even after achieving proficiency in all other aspects of the language.

1.1 Background of Study

In the context of Pakistan, English serves as the only official foreign language. It is often regarded as the language of the educated and elite class, one that can secure prestigious jobs. However, if individuals lack the necessary vocabulary to express themselves, their ability to articulate their thoughts and views becomes compromised.

The development of vocabulary is not an easy task, and as such, both teachers and students adopt various strategies to effectively learn L2 vocabulary. Traditionally, in the context of Pakistan, teachers primarily use GTM strategies. However, there is a growing trend towards newer and more innovative strategies linked with technology that keep students motivated and interested in the task. The use of audiovisual aids as an alternative to traditional GTM methods brings real-life experiences into the classroom, bridging the gap between classroom activities and real-life situations (Yuliana, 2011).

As a high school English teacher in Pakistan, the researcher has observed that students who have completed their graduation are often unable to communicate in English effectively. This is due to their tendency to memorize information solely to pass exams, leading to weakness in all language skills. As such, the researcher has made efforts to create and discover more effective and interesting methods and strategies for developing L2 vocabulary. Through a Dual Coding perspective, the researcher aims to explore the most effective strategy between GTM and AV aid strategies in the Pakistani high school context.



1.2 Significance of the Study

The development of vocabulary in any language is an important component, alongside grammar development, for learners to effectively speak, write, and understand language discourse. However, second language learners often face obstacles in learning and memorizing unfamiliar words. To address this issue, learners tend to employ various strategies according to their learning styles and teaching instructions from their L2 teachers.

In the Pakistani context, L2 teachers commonly utilize verbal or single coding strategies in passive classroom environments that fail to engage and motivate learners in traditional L2 vocabulary development strategies. Therefore, this study aims to explore quick, easy, and effective strategies for L2 vocabulary development through the dual coding theory of vocabulary learning, utilizing audiovisual aids. It highlights the importance of dual coding for L2 learners in recognizing and retaining vocabulary items as a part of their long-term memory.

This research also provides a knowledge base for L2 teachers and learners to modify their teaching and learning strategies in ESL classrooms. Additionally, it explores the factors that influence the choice of ESL vocabulary development strategies and encourages Pakistani teachers to use audiovisual aids in their ESL classroom settings. By doing so, it increases the knowledge of L2 learners and teachers about modern and technology-based learning.

In summary, this study benefits L2 teachers and learners as well as future researchers and ELT/SLA educationists in the Pakistani context who are interested in conducting studies on vocabulary development in a second language. It serves as a modest reference for further exploration in this field.

2. Literature Review

The presence of English in the Subcontinent region predates the existence of Pakistan. The language was introduced to the region when the British arrived as traders and subsequently colonized the area through military force. Despite efforts throughout history to replace it with Urdu, English remained the official, formal, and higher educational language of Pakistan due to various reasons (Tariq, et al., 2015). Pakistan is a multilingual country, and the Constitution of Pakistan (1973) acknowledges this by declaring Urdu as the national language and English as the official language. The social status, respect, and literacy of individuals are linked to their proficiency in English, which creates animosity among students who view the language as an obstacle to achieving high grades and positions in practical life. This situation is exacerbated by the high failure rate in English compared to other subjects, as well as the concept of Urdu and English medium schools, which help maintain the status quo. Rahman (2001) argues that English should be taught to all students in Pakistan, regardless of their social and economic backgrounds, to promote cultural balance and broaden the minds of the people.

In recent years, researchers and educators in Pakistan have explored new ways of teaching English as a second language. Esmail, Ahmed & Noreen (2015) suggest that passive and structural teaching methods, such as Grammar Translation Method (GTM), should be replaced with innovative, interesting, and activity-based teaching methods that incorporate audio-visual aids.

2.1 Vocabulary Development Strategies

In the past, vocabulary learning did not receive as much emphasis as grammar and structure learning, and it was typically taught through reading and writing. However, this approach was often tedious for students as they were required to memorize new words in isolation, including their spelling and proper pronunciation (Huyen & Nga, 2003). In contrast, Nation (2001) offers a range of strategies for developing the vocabulary of second language learners, highlighting that any strategy is better than none at all. Some of the strategies mentioned in his book include shared book reading, independent reading, use of contextual clues, and utilization of dictionaries, among others.

2.2 Audio-Visual Aids in L2 Vocabulary Development

In the realm of language learning, the use of technology to facilitate teaching is not a novel concept; rather, it has been adapted over time and has undergone significant changes with advancements in technology. During the Middle Ages, teachers used only visual aids, which evolved into the use of audio aids in the eighteenth and nineteenth centuries. The twenty-first century is the age of technology, which has rapidly revolutionized the language learning process.

Traditionally, strategies for memorizing, translating, and using dictionaries have been employed to learn vocabulary. While students can memorize words using these methods, they often become bored and passive learners. As a result, young learners have begun to rely on cramming, rather than on recognition, memorization, and retention of learned words (Nasikhah, et al., 2019). These conventional strategies are tedious, time-consuming, and unengaging for modern learners, and fail to provide meaningful contexts for L2 learners, who cannot relate classroom instructions to real-world situations.

In recent years, technology has enabled L2 vocabulary teaching methods, strategies, and tools to become more effective and permanent. Technology serves as a key driver of media-based strategies, with Anderson (1976, as cited in Nasution, 2019) identifying ten types of media, including audio, visual, silent visual, audio-visual motion, print, physical objects, and computers.

2.3 Effectiveness of Audio-Visual Aids in ESL Classroom

- Audiovisual aids fill the gap between school and real everyday life.
- It makes learning process interesting and learners as active participants, because Harmer (1998) mentioned that boredom is the biggest enemy of successful learning process.
- Audiovisual aids help to permanently memorize the words of second language.
- Audiovisual aids create a vivid picture in the mind of L2 learners that helps them to retain the information for a longer period.
- Audiovisual aids help to economize the time in language learning. (Chandler & Cypher, 1948)

2.4 Research Objectives

This study has the following research objectives to:

- Explore that whether the audiovisual aids are more effective than traditional strategies in L2 vocabulary learning.
- Find out the specific ways through which ESL learners can learn vocabulary quickly, easily and for a long time.
- Examine the attitudes of Pakistani teachers towards the usage of different GTM and AV aid strategies in ESL classroom.

2.5 Research Questions

This research deals with following research questions:

- Whether or not audiovisual mode of input is more effective in learning L2 vocabulary in Pakistani context?
- What are some of the ways through which students can learn and retain L2 vocabulary for a long time?
- What are the attitudes of teachers towards the usage of GTM and AV aid strategies in ESL classroom?

3. Methodology

The present study has been designed to adopt a quantitative research approach in order to investigate the efficacy of audio-visual (AV) aids in second language (L2) vocabulary acquisition among Pakistani ESL learners in comparison to traditional learning strategies. Furthermore, the study aims to explore the attitudes of teachers towards the use of different vocabulary learning strategies. A quasi-experimental research design with a control and an experimental group has been employed in the study. The control group is instructed with traditional strategies such as L1 translation and repetition of words and meanings in verbal and written forms. On the other hand, the experimental group is instructed using AV aids such as white board and flash cards, among others. In order to collect data, close-ended questionnaires have been used.

3.1 Research Setting

The study participants were 10th grade students from three government high schools in Sargodha district. The sample included two schools from rural areas, namely Government Girls High School Chak No 16/ SB and Government Girls High School Chak No/ 26 NB, and one school from Sargodha city, Government Comprehensive Girls High School Sargodha.

3.2 Data Collection

The population for this study comprises 10th grade ESL students and high school English teachers from both government and private schools in the Sargodha district, consisting of three government high schools - two from rural areas (Government Girls High School Chak No 16/SB, Government Girls High School Chak No/26 NB) and one from Sargodha city (Government Comprehensive Girls High School Sargodha). A cluster random sampling design is employed, resulting in a sample size of 160 ESL students and 50 ESL teachers.

Quantitative data is collected using two primary instruments: pre, post, and delayed posttests and questionnaires. The pre, post, and delayed posttests are conducted in ESL classrooms to assess the effectiveness of AV aids in comparison to traditional strategies and how AV aids can contribute to the retention and sustainability of L2 vocabulary learning. Additionally, Likert scale-based questionnaires are administered to gauge teachers' experiences and attitudes toward the use of AV aids and GTM strategies. The quantitative data is processed using SPSS software.

3.3 Theoretical Framework

In order to investigate the most effective strategies for developing L2 vocabulary by Pakistani learners, this study employs the theoretical framework of "dual coding theory" proposed by Allan Paivio in 1971. Dual coding theory is a cognitive theory that rejects single coding strategies that propose that a single input, whether visual, auditory or written, is sufficient for learning. Paivio's theory proposes the idea of dual coding, which suggests that mental imagery plays a crucial role in effective knowledge acquisition (Reed, 2010). According to the dual coding theory, learners can increase their knowledge through two modes: visual and oral inputs, because both aural and visual input can be used to represent objects or words (Sternberg, 2003).

Paivio's dual coding theory suggests that both verbal and non-verbal systems work simultaneously and automatically for each other. Paivio uses the terms Logogens and Imagens to describe verbal and nonverbal units, respectively. Logogens refer to verbal units, whether spoken or written, while imagens refer to nonverbal units and mental images. Logogens and imagens are linked to each other with two types of connections: referential connections and associative connections (Paivio, 2014).

Dual coding theory includes two types of codes: analogue codes and symbolic codes. Analogue codes represent mental pictures that are similar to real-life objects in our environment. Symbolic codes, on the other hand, represent the psychological representation of words. These symbolic codes represent information in our minds in the form of arbitrary symbols (Sternberg, 2003).

4. Results and Analysis

This experimental research involved three tests: pre-test, post-test, and delayed post-test. The pre-test was conducted to assess the homogeneity of both groups before the research was conducted. The post-test was conducted to measure the recognition rate and to analyze the effectiveness of both GTM strategies and AV aid strategies after the research was conducted. The delayed post-test was conducted one week after the post-test to assess the retention rate of vocabulary and to determine how well and how long students can remember vocabulary in their long-term memory.

The collected data was analyzed using statistical analysis through SPSS software, specifically by utilizing the paired sample t-test formula for both the controlled and experimental groups. The paired sample t-test was used to measure the mean difference between the two groups statistically, which were taken from the same participants at different times. The t-test was utilized to determine whether the difference between the means of the two groups was statistically significant or not.

4.1 Analysis of Tests

In order to assess the effectiveness of audiovisual aid, a paired-sample t-test was utilized. This test measures the mean difference between two groups and applies a t-test to determine whether the difference among the means of the two groups is statistically significant or not. The results of the paired sample t-test for the experimental group are presented below.

Table 1. Paired Samples Test of Experimental Group

	Paired Differences		95% Confidence		T	Df	Sig.(2 tailed)		
	Mean	Std. Deviation	Std. Error	Interval of the Diff.					
			Mean	Lower	Upper				
Pair 1	Exp. _Pre Exp. _Post	-7.32500	7.01314	.78409	-8.88570	-5.76430	-9.342	79	.000

The results indicate that the mean score of the control group prior to the intervention is 37.70, while the mean score after the intervention is 38.90, resulting in a difference of 1.20 scores between pre and post-test scores. The paired sample t-test revealed that the mean difference between the pre and post-test scores of the control group is not statistically significant at the 1 percent level of significance as the p-value is 0.255, which is greater than 0.01.

Table 2. Paired Samples Test of Controlled Group

		Paired Differences		95% Confidence					
		Mean	Std. Deviation	Std. Error Mean	Interval of the Diff.		t	df	Sig. (2tailed)
					Lower	Upper			
Pair 1	Cont. _Pre Cont. _Post	-1.55000	5.75645	.64359	-2.83104	-.26896	-2.408	79	.018

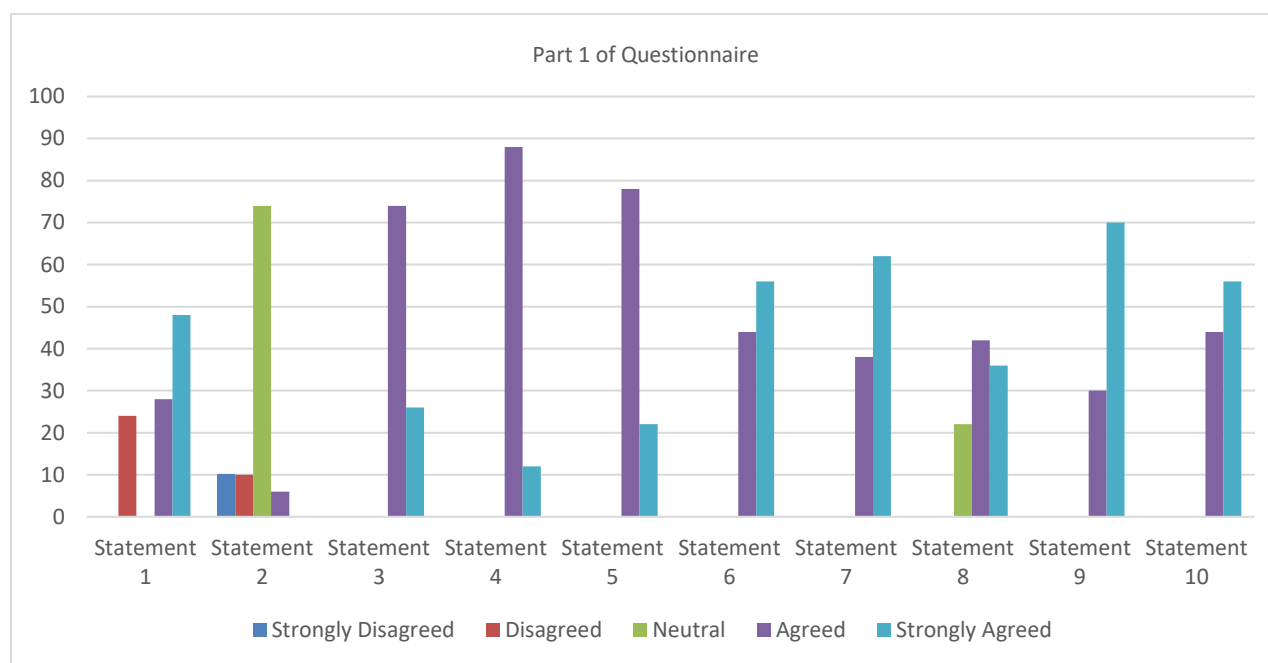
The present study examined the effectiveness of audiovisual aids in comparison to traditional methods for teaching L2 vocabulary. The results indicate that the mean score of the control group before the intervention through traditional methods was 38.35, while the mean score after the intervention was 39.90. This difference of 1.55 scores between the post and pre scores of the control group is smaller than the difference observed in the experimental group.

The findings demonstrate that the intervention through audiovisual aid is more effective in improving L2 vocabulary acquisition compared to traditional methods. Moreover, the results of the paired-sample t-test indicate that the mean difference between post and pre-test scores is statistically significant at a 1% level of significance with a p-value of 0.018.

4.2 Analysis of Questionnaire

The questionnaire utilized a two-part format. The first part focused on the beliefs and opinions of teachers concerning the issue of vocabulary development, while the second part pertained to their attitudes and experiences with respect to the same. The questionnaire comprised 20 closed-ended statements, rated on a scale of 1 to 5, which explored the various strategies used for vocabulary development. The ensuing analysis of the questionnaire responses is presented below.

Figure 1. Part One of Questionnaire



The questionnaire consisted of two parts: the first part elicited the beliefs and opinions of teachers regarding the introduction of new words in the classroom, while the second part explored their attitudes and experiences towards vocabulary development strategies. The questionnaire comprised 20 closed-ended statements rated on a scale of 1 to 5. The following analysis presents the results of the questionnaire.

The first statement of the questionnaire asked whether teachers favored introducing new words daily in each class or as needed. The majority of teachers agreed with the statement and strongly supported it, as shown in the graph. The second statement asked whether students asked for the meaning of new words frequently, to which 74% of teachers responded neutrally. The third statement enquired about the more effective L2 vocabulary learning strategy between AV aids and GTM strategies. The graph indicates that 74% of teachers agreed with this statement.

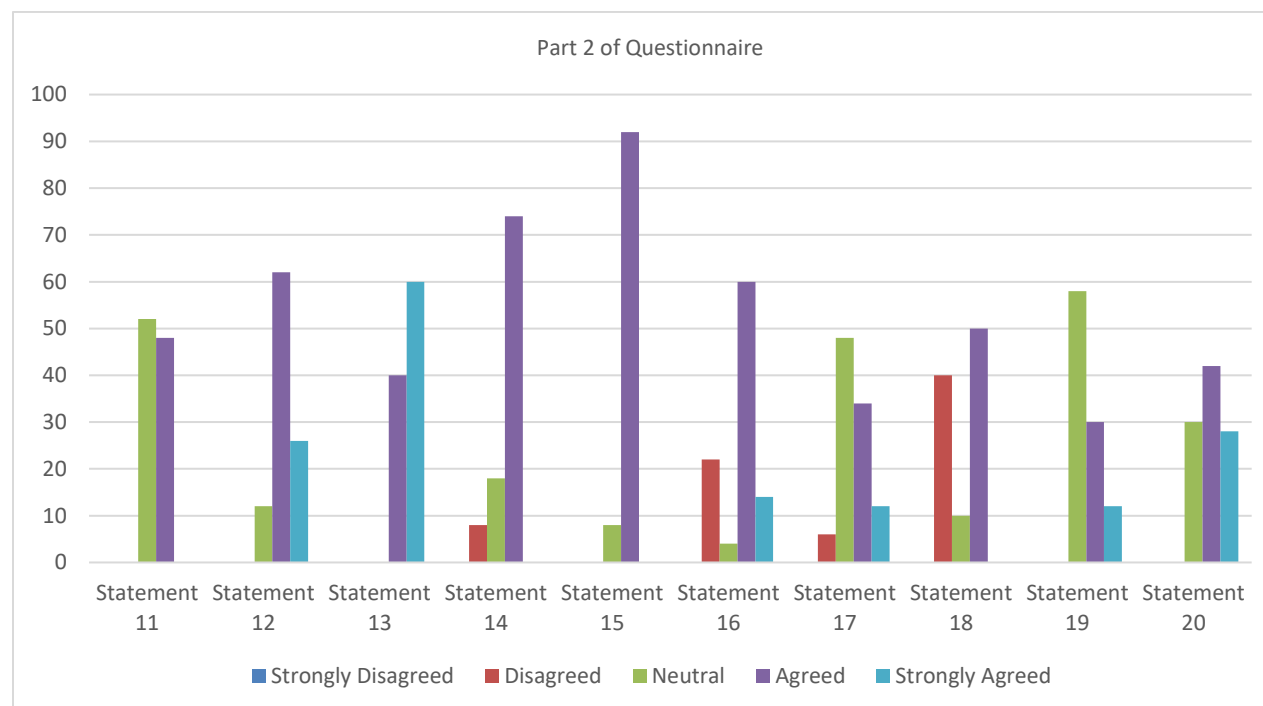
The fourth statement asked whether the recognition of words was higher with AV aid strategies than GTM strategies. The response showed that teachers strongly agreed with this statement, with 88% agreeing and 12% strongly agreeing. The fifth statement investigated the retention ratio of words from the former perspective. The response was positive, with 78% of teachers agreeing and 22% strongly agreeing.

The sixth statement asked about teachers' experience with learners' interest in ESL classes when using AV aid strategies to teach new L2 vocabulary. Teachers strongly agreed that this was a benefit of using AV aids in ESL classes, with 44% agreeing and 56% strongly agreeing to the statement. The seventh statement asked whether AV aid strategies increased motivation among ESL students, to which all teachers agreed, with 38% agreeing and 62% strongly agreeing.

The eighth statement inquired whether AV aid strategies could fulfill the needs of all students with different learning styles, based on their academic experiences and exposure. Overall, the response was positive, with 22% of teachers offering a neutral opinion, 42% agreeing, and 36% strongly agreeing to the statement. The ninth statement asked about the active participation of students in class in connection with the usage of AV aid strategies in ESL classes. The majority of teachers strongly agreed with this statement, with 30% agreeing and 70% strongly agreeing.

The tenth statement asked whether AV aid strategies were more effective and beneficial for English vocabulary development than GTM strategies in context. The response showed that teachers were in agreement with the researcher, with 44% agreeing and 56% strongly agreeing that AV aids were more beneficial for English vocabulary learning in context than GTM strategies.

Figure 2. Part Two of Questionnaire



The present study analyzed the responses of teachers regarding their teaching practices of L2 vocabulary in ESL classrooms. The eleventh question of the questionnaire inquired about the teachers' emphasis on the form or meaning of new words. The results showed a relatively equal distribution of neutral (52%) and agreement (48%) responses. The twelfth statement addressed the teaching method of new words, specifically if teachers encourage students to use new words in sentences. The graph presented indicated that a majority of teachers agreed with this statement (62%), followed by strongly agreeing (26%), and neutral responses (12%). The thirteenth statement asked about the usage of mother tongue in class. The responses revealed that the majority of teachers strongly agreed with this practice (60%), while 40% agreed with the statement. The fourteenth statement inquired about teachers' usage of L2 definitions to explain new words. The results showed that 74% agreed with this statement, while 18% had a neutral response and 8% disagreed.

The fifteenth statement of the questionnaire examined the usage of word/meaning lists while teaching L2 vocabulary. The majority of teachers agreed with this practice (92%), while 8% had a neutral response. The sixteenth statement focused on the usage of audio-visual aids, particularly pictures, in the ESL classroom to aid in teaching new L2 words. The graph illustrated that 14% of teachers strongly agreed, 60% agreed, 22% disagreed, and 4% had a neutral response towards this statement. The seventeenth statement asked teachers if they preferred using audio-visual aids in L2 vocabulary teaching. The responses were mixed, with 48% having a neutral reaction, 34% agreeing, 12% strongly agreeing, and 6% disagreeing with the use of AV aids.

The eighteenth statement focused on the teachers' experience with using AV aids in the classroom and whether they felt comfortable using them. The responses were divided, with 50% agreeing, 40% disagreeing, and 10% having a neutral response. The nineteenth statement examined whether teachers preferred to use verbal (auditory) and non-verbal (visual) strategies to teach L2 vocabulary in ESL classrooms. A majority of teachers had a neutral response (58%), while 30% agreed, and 12% strongly agreed with the statement. Finally, the last statement asked about the effectiveness of verbal and non-verbal input in recognizing and retaining L2 vocabulary. The responses indicated that 28% of teachers strongly agreed, 42% agreed, and 30% had a neutral response to the statement.

5. Discussion

Based on the statistical analysis and research objectives, this section discusses the most effective, efficient, and sustainable strategies for L2 vocabulary learning, comparing AV aids and GTM strategies. Additionally, it explores the attitudes and experiences of Pakistani ESL teachers towards different strategies in the classroom.

Based on the collected and analyzed data, both experimental and control groups exhibited better posttest results than pretest scores. However, the experimental group, which received instructions via AV aid strategies, achieved higher scores than the control group, which received instructions through GTM strategies. The findings suggest that incorporating both visual and auditory input in vocabulary teaching leads to positive effects on vocabulary development. This concept aligns with the Dual Coding Theory (Paivio, 1990), which proposes that the creation of mental imagery facilitates effective knowledge acquisition and storage of new vocabulary in long-term memory. To evaluate retention rates, the researcher conducted a delayed posttest, which confirmed the higher effectiveness of AV aid strategies in L2 vocabulary learning compared to GTM strategies. These results validate the earlier posttest analysis, where the experimental group outperformed the control group significantly.

Thus, based on the statistical analysis of pretest, posttest, and delayed posttest results, AV aid strategies that incorporate both visual and oral input are more effective for L2 vocabulary learning in the context of Pakistan, compared to GTM strategies that solely focus on one input mode, either oral or written. Furthermore, this highlights the importance of incorporating other AV aids strategies like models, real-life objects, and technology-based tools such as computers, screens, and projectors in L2 vocabulary learning, based on the given resources and context. Stoner (2009) emphasizes the significance of using AV aid strategies in ESL classrooms, as they encourage learner participation and foster interest, resulting in improved student performance.

Although both GTM and AV aids offer strategies for L2 vocabulary development, selecting the most effective and accurate approach remains a primary concern. A well-chosen strategy facilitates easy, quick, and permanent vocabulary learning and motivates learners to remain active while learning L2 vocabulary. Therefore, the researcher posed multiple questions to teachers regarding different L2 vocabulary teaching methods, including GTM and AV aid strategies, which are presented as statements numbered two, eleven, twelve, thirteen, fourteen, fifteen, sixteen, and seventeen in the questionnaire.

In response to the aforementioned statements and their analysis, there are various GTM and AV aid approaches that students can employ to acquire L2 vocabulary. Nation (2001) emphasizes the use of strategies while learning new vocabulary, stating that adopting any type of strategy is better than none. However, the first hypothesis of this research suggests that AV aid strategies are more effective than GTM strategies. The graph above shows that many teachers have a neutral response towards different and relatively new approaches such as questioning students, focusing on meaning rather than form, and using both verbal and nonverbal methods to teach L2 vocabulary. These concepts are not preferred and appreciated in ESL classrooms of Pakistani schools. However, it is evident from the graph that most teachers agreed or highly agreed to the suggested strategies. The results indicate that a single approach to acquiring L2 vocabulary is insufficient, and teachers should tailor their methods to the learners' needs. Pinter (2017) also agrees that when a teacher intends to teach vocabulary items, they should not specify a single strategy but should combine several strategies to obtain better results. However, the strategies should be preplanned and structured before the session and should cater to the needs of all learners.

The attitude and opinion of teachers towards the use of different traditional and AV aid strategies are significant and necessary in academic settings. In the Pakistani context, teachers have mixed opinions and attitudes towards GTM and AV aid strategies. Some prefer to use modern and technological methods of teaching L2 vocabulary, while others prefer to stick with traditional GTM strategies because they have been working for so many years. Furthermore, the learning environment and experiences of both teachers and students are insufficient to support the complete use of AV aid strategies in the Pakistani context.

According to the questionnaire, most teachers agreed on the benefits of using AV aid strategies to develop L2 vocabulary, but at the same time, they preferred to use their usual traditional strategies. Despite these facts, they show a desire to move forward; therefore, most teachers gave a neutral response towards the usage of AV aid strategies to develop L2 vocabulary. Eight statements in the questionnaire present the opinion and attitude of teachers, numbered as three, four, five, six, seven, nine, seventeen, and eighteen. Mostly, teachers gave a positive response towards those statements that highlight the effectiveness and benefits of using AV aid strategies in L2 vocabulary development. However, many teachers gave a neutral response towards their preference and comfort level in using AV aid strategies. The reason for this uncertainty and confusion might be the set traditional method of teaching that has prevailed for almost half a century. Nonetheless, a large number of teachers do prefer AV aid strategies in vocabulary development of the second language, which shows the progressive thought of the teachers. The last statement in this regard asked the teachers about their attitude towards the use of AV aid strategies in class. They were asked whether they feel comfortable using AV aid strategies in vocabulary sessions or not. Based on the collected data, 50% of teachers agreed that they do not feel comfortable using AV aid strategies in vocabulary sessions, 40% disagreed with the statement, and 10% had a neutral response. Several factors might explain the agreement and neutral response to this statement. Age might be one factor because most government school teachers in the collected data have 20 to 30 years of experience and are old enough to experiment with new strategies. Another reason might be the lack of teacher training, as it is difficult to expect them to teach what they know nothing about. Therefore, half of the participants do not feel comfortable using AV aid strategies for the development of L2 vocabulary.

The present comparative study highlights the effectiveness of AV aid strategies in L2 vocabulary development, as compared to traditional GTM strategies. Additionally, the study also suggests that the positive impact of Dual Coding Theory can be observed in the test scores and attitudes of students towards AV aids.

Based on these findings, several recommendations are suggested for future studies. Firstly, it is recommended to explore the effects of different physical settings, classroom grades, and technological devices (such as audio, visual or audiovisual aids) on L2 vocabulary learning, in order to gain a better understanding of their potential benefits and limitations. Secondly, conducting gender-based research in this area could also prove beneficial. Analyzing the preferences and choices of boys and girls regarding the use of AV aid materials for L2 vocabulary learning can provide valuable insights into how to make classroom instruction more engaging and effective for all students. Thirdly, it is suggested that future research should explore the potential benefits of technology-based instruments and internet access in government schools, in order to make classroom learning more engaging, realistic, and effective. Lastly, the present study only focused on government schools, thus it is recommended that future researchers should compare the structures, policies, and teaching methods of private and government schools, in order to explore the potential differences in their effectiveness in L2 vocabulary development.

6. Conclusion

This research was conducted to assess the efficacy of AV aid strategies for L2 vocabulary development among ESL high school students in Pakistan, utilizing Dual Coding Theory as the theoretical foundation. The study successfully addressed the research questions and achieved the research objectives.

Based on the findings, it can be concluded that AV aid strategies are more effective than GTM strategies for L2 vocabulary development in the Pakistani ESL context, as per the perspective of Dual Coding Theory. The study identified several techniques that can enhance the effectiveness of AV aid strategies and aid in the retention of new L2 words in the long-term memory of learners. These techniques include sentence construction, compiling word/meaning lists, utilizing the mother tongue, providing definitions for individual words, and employing pictures to aid in comprehension and memory retention.

Notably, both students and teachers expressed a positive, progressive, and optimistic attitude towards the use of AV aids, despite the challenges associated with the requisite skills, facilities, and training specific to the Pakistani context. It is recommended that future research investigate the impact of AV aid strategies in other contexts and explore the role of gender in L2 vocabulary acquisition. Additionally, the comparison of the structures, policies, and teaching methodologies of private and government schools could provide further insight into the effectiveness of AV aid strategies.

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Bio-note:

Noor-ul-Ain is an MPhil scholar.

Dr. Azher Pervaiz

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Appendix

Questionnaire for Teachers

Respected Teacher,

This questionnaire serves as an instrument to collect data for M-Phil dissertation under the title “A Comparative Analysis of Strategies for L2 Vocabulary Development: A Dual Coding View of Pakistani ESL Learners”. This questionnaire is designed to explore your respected beliefs, opinion, attitude and teaching styles towards the usage of L2 vocabulary development strategies in English class. This questionnaire is based on the statements regarding the employment of GTM and AV aids strategies while teaching English vocabulary to grade 10 students.

Your voluntary participation, honest and critical views regarding above issue will help tremendously in reaching the firm conclusion and to achieve the objectives of this study. Your participation will be treated with full confidentiality. Your identity and information regarding your institution will not be disclosed to anyone.

Thank you for your precious time and your sincere cooperation.

Scale of Teacher: _____

English teaching experience: _____ years

Institute: _____

Kindly tick one best choice.

AV aids = Audio Visual aids

GTM = Grammar Translation Method

L2 = Second Language (English)

Part 1

Sr. No.	Statements	Strongly Disagreed	Disagreed	Neutral	Agreed	Strongly Agreed
1	I am in favor of introducing new L2 words in every lesson.					
2	My students ask about the meanings of new words every time.					
3	I think AV aids are more effective than GTM strategies.					
4	I think AV aids help more in the recognition of new words than GTM strategies.					
5	I think AV aids help more in the retention of new words in long term memory than GTM strategies.					
6	The use of AV aids strategies in classroom makes the learners interested in lesson.					
7	AV aids strategies increase the motivation level in students.					
8	AV aids fulfil the needs of all students with different learning styles.					
9	AV aids promote active participation of students in class.					
10	AV aids are more beneficial for English vocabulary learning in context than GTM strategies.					

Part 2

Sr. No.	Statements	Strongly Disagreed	Disagreed	Neutral	Agreed	Strongly Agreed
11	While presenting new words, I focus more on the meanings of word rather than form of word.					
12	I teach my students to use new words in sentences.					
13	I prefer to tell the meaning of new word in mother tongue.					
14	While teaching new words, I give a definition of the word in target language.					
15	I prefer to use Words/Meaning list to teach L2 vocabulary.					
16	While teaching new words, I show a picture related to the word to make					

	them understand.					
17	I prefer to use AV aids while teaching L2 vocabulary.					
18	I do not feel comfortable while using AV aids in class.					
19	I prefer to use verbal and non-verbal strategies while teaching L2 vocabulary.					
20	Verbal & non-verbal input is more effective in recognition and retention of vocabulary.					