Effects of Using Google Classroom: Iraqi EFL University Students' Vocabulary Learning and Attitudes

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Abstract

This research explores the effects of using the Google Classroom application on the vocabulary development of Iraqi university students pursuing EFL education. Additionally, it sought to explore the attitudes of these learners toward utilising the Google Classroom application. To achieve these objectives, 80 Iraqi EFL learners were selected using a convenient sampling method. They were both boys and girls and demonstrated an upper-intermediate level of ability. Then, the learners were randomly assigned to the control and experiment groups. The experimental group used the Google Classroom platform as an intervention, whereas the control group received no digital intervention during the vocabulary sessions. The vocabulary test was conducted before and after the study as pre-tests and post-tests, respectively. The outcomes of the research investigation demonstrated that the experimental group's use of the Google Classroom application significantly improved the participants' vocabulary learning. Furthermore, the findings showed that the Google Classroom application provides positive attitudes towards language learning. The results of this research offer some pedagogical implications for students, instructors, researchers, and language policymakers.

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Introduction

Scientific and technological advancements have improved the quality of human resources in learning activities. A shift in the learning system from an offline to an online learning environment indicates this change. The Coronavirus has substantially influenced several industries and resulted in a two-year duration characterised by precarious circumstances that limit individuals' ability to venture beyond their homes (Irawanto et al., 2021; Batubara, 2021). The Coronavirus has significantly disrupted the educational system. Professors and students, unable to physically convene, conduct the educational process via online platforms. This assertion holds throughout all academic levels in Iraq, ranging from elementary schools to universities. The utilisation of applications on cell phones for communication and educational purposes between teachers and students is a prominent feature of online learning (Chang et al., 2021). The advancement of science and technology, particularly information technology, has several beneficial effects on how the modern educational landscape is developing, according to Fithriani (2021). Fithriani et al. (2019) dated the historical integration of technology in language learning to the 1960s.

One of the most popular platforms for education in remote learning is Google Classroom. Iftakhar (2016) first used the phrase "Google Classroom platform" in 2014, and it has continued to grow and develop ever since. Google Classroom enables users to access its features by connecting their email accounts to the program (Gupta & Pathania, 2021; Syakur et al., 2020). Google Classroom has several features as a virtual learning tool with the same benefits and purposes as offline learning, such as presenting information, posting comments, providing assignments, and conducting evaluations. According to Iftakhar (2016), it has many effective characteristics, making it the perfect tool for students. Many universities and institutions use it as a digital teaching technique in the classroom. In response to the extraordinary circumstances arising from the global pandemic, Iraqi institutions, like their counterparts worldwide, were compelled to adopt educational platforms alongside their existing e-learning systems. As a result of the unfeasibility of conducting in-person educational activities due to the impact of the COVID-19 virus, schools, universities, and other educational institutions were compelled to adopt remote education methodologies to fulfil the academic requirements.

Without vocabulary, nothing can be accomplished. It is the foundation of communication. The claim made by Jamalipour and Farahani (2012) that vocabulary is generally recognised as the primary communication instrument strengthened this case. Vocabulary is an expression of the human mind that language users use to convey their thoughts, emotions, and opinions. Vocabulary is essential for anyone who seeks to learn a language. According to Cameron (2001), vocabulary holds considerable importance in language acquisition for learners, making it one of the critical domains within

language learning. Only some people can succeed in language learning if they develop it. According to Harmon et al. (2009) and Linse (2005), vocabulary plays a crucial role in developing language skills. " As a result, teachers must comprehend its significance if they want their students to attain academic achievement in language learning.

Sianipar and Gultom (2022) claimed that Google Classroom demonstrates efficacy as a pedagogical tool in writing. According to the study conducted by Al-Maroof and Al-Emran (2018), the integration of Google Classroom into the learning process was found to have a positive impact on learner motivation. Similarly, Khalil (2018) posits that students perceive Google Classroom to support an atmosphere of collaboration in education due to its facilitation of interactions between teachers and students and among students. Moreover, the study by Yusoff and Marzaini (2021) showed that Google Classroom can be an exceptionally efficient instrument for online instruction and education. Sukmawati and Nensia's (2019) study sought to evaluate Google Classroom's impact on English as a Foreign Language Teaching. The research findings indicate that Google Classroom plays a significant role in teaching and learning English. In addition, Nugraha et al. (2023) found that students showed a favourable propensity towards using Google Classroom for vocabulary education. The study emphasised the effectiveness of Google Classroom in promoting vocabulary acquisition through its interactive features, which allow for smooth communication between students and teachers in sharing vocabulary items. Still, no research has looked into how Google Classroom may be used practically in Iraq to help students learn vocabulary. This study thus sought to determine how using Google Classroom affected Iraqi students' language acquisition.

While many studies discuss vocabulary instruction through the Internet and other apps, relatively no research has been done on using Google Classroom to enhance vocabulary in Iraqi English as a Foreign Language (EFL) contexts. The researcher conducted a study to demonstrate the efficacy of utilising an online platform in enhancing students' ability to acquire new words, considering the frequent exposure to many unfamiliar terms. Thus, this study aims to demonstrate the beneficial effects of Google Classroom for vocabulary instruction and learning in Iraqi settings. In this study, there are two research questions:

- Does using the Google Classroom platform significantly impact vocabulary learning among Iraqi EFL learners?

- What is the attitude of Iraqi EFL learners about utilising the Google Classroom platform?

Literature Review

Vocabulary Mastery

According to Vossoughi (2009), vocabulary is a fundamental aspect of language that must be acquired and instructed. Moreover, word vocabulary is a cognitive instrument that facilitates thinking, expressing thoughts and emotions, and acquiring knowledge about the world. The significance of vocabulary in the lives and prospects of students has been emphasised by Faliyanti and Sari (2018). It has been suggested that pupils had to prioritise vocabulary acquisition before acquiring English language proficiency. Asyiah (2017) found a direct relationship between the amount of vocabulary learned and students' skill level in English. Vocabulary mastery requires students to understand the meaning of words, their spoken and written forms, the origin of the words, grammatical behaviour, opposing words, word connections, and the frequency of words (Thornbury, 2002). A study by Walters (2006) mentioned that an individual is considered to possess knowledge of a term if they can comprehend its meaning upon initial auditory exposure. Batty (2012) proposed that persons can be regarded as having word comprehension when they know semantic, syntactic, and pragmatic features in the interaction frame. The process of acquiring vocabulary, which includes both individual words and phrases, is the primary component that influences the achievement of overall fluency in a foreign language.

Nevertheless, as Shen (2008) states, acquiring new vocabulary in a foreign language is an intricate and enigmatic process (p. 135). Shoebottom (2007) asserts that a singular, universally applicable approach for simultaneously acquiring all information about a word does not exist. According to Saville-Troike (2006), students must employ many methods to obtain a complex understanding of the required word.

Educational Technology

The fast spread of technology across multiple domains, particularly education, has positioned it as a pivotal advancement in contemporary society. The current emphasis in educational settings is predominantly on technological advances, as evidenced by the works of Abdellatif (2015), Jia and Hew (2019), and Luo and Gui (2019). The efficacy of technology is generally recognised in the realm of EFL courses since it is seen to be advantageous for both instructional delivery and student acquisition of knowledge. In EFL contexts, educators are presently utilising technological technologies to enhance students' language proficiency. Research studies have shown that using technological tools can improve student involvement in language acquisition. In addition, it has been suggested that technology has the potential to provide an interactive educational setting for individuals seeking to acquire proficiency in a foreign language (Wu & Miller, 2019; Namaziandost et al., 2021). Some instructors, for example, may assign their students to create a movie about running action verbs or representing a short story. In addition, the

use of technological devices can foster favourable orientations towards acquiring knowledge, concurrently increasing time allocation for educators and learners equally (Schacter, 1999; Xue & Churchill, 2020).

As stated by Janfeshan (2022), the field of language teaching has experienced a significant shift in perspective due to the introduction of advanced technology and apps. The widespread accessibility of internet technologies, websites, and app developers has significantly enhanced the appeal of foreign language instruction for many learners worldwide. According to McKeeman and Oviedo (2015), technological advances have become necessary and indispensable instructional tools for improving classroom language education. Then, students who want to improve their teaching and learning outside the physical classroom extensively use multiple Internet functionalities (Haygood et al., 2012). Extensive scholarly inquiry has been undertaken in the past ten years regarding the impact of using technology in acquiring new languages (Blake, 2013; Janfeshan & Janfeshan, 2021; Richardson, 2010; Yusuf et al., 2018). Moreover, the worldwide dissemination of the COVID-19 pandemic, the potential pandemic, and the necessity of participating in virtual classrooms mitigate the minimal level of reluctance and ambiguity surrounding online language acquisition (Janfeshan, 2022). Due to the widespread adoption of online platforms for foreign language acquisition, there has been a notable shift in focus towards creating new applications or improving current ones (Goldschmidt, 2020).

Attitudes

Kurihara (2006) identified attitude as a person's belief about an attribute of executing a behaviour influenced by an assessment of qualities. Lawrence and Lawrence (2013) described attitude as linked to an individual's views and values. Individuals hold attitudes towards various things, which can be negative or positive. Consequently, students' attitudes towards learning English may not necessarily align with the statement. While some students may possess negative attitudes towards learning English, others may have positive attitudes towards the English language. Banaji and Heiphetz (2010) define an attitude as a collection of behaviours, emotions, and convictions pertaining to a particular entity, individual, item, or occurrence. This attitude, a consequence of education, experience, and social contact, can be positive or negative. Abidin et al. (2012) suggest that attitude consists of three components: cognitive, emotive, and behavioural. The cognitive component refers to the mental processes and beliefs associated with the focus of the mentality. The expressive component pertains to an individual's emotions and feelings towards an object, whereas the behavioural component pertains to the inclination to adopt specific learning behaviours. Ajzen (2002) proposed a framework encompassing three fundamental elements of attitude: cognitive, affective, and behavioural. Moreover, Ajzen (2002) conducted a study that confirmed the influence or predictive nature of several factors,

including emotional characteristics, the intensity of beliefs, and contextual components, on attitudes. Consequently, it can be argued that an individual's attitude is not a static construct that transforms in response to the surrounding context and personal encounters.

According to Shahsavar and Tan (2012), the attitudes held by students towards foreign language acquisition significantly impact the factors contributing to their success in acquiring proficiency in that language. Multiple research has demonstrated the significance of students' attitudes about using virtual academic networking apps via the Internet learning languages. These studies include the works of Al-Ruheili and Al-Saidi (2015), Dashtestani (2016), Janfeshan and Janfeshan (2021), Ngo and Ngadiman (2019), Manowong (2016), and Safdari (2021). The findings from the investigations indicate that the individuals who participated in acquiring a new language had favourable attitudes towards using social media platforms during online language instruction.

Google Classroom Platforms

Beal (2017) defined Google Classroom as a digital platform that effectively supports the educational experience for educators and learners alike. The Google Classroom platform can be described as a well-known educational platform used in remote education (Lazhari, 2022). It facilitates establishing groups among teachers and enhances their ability to exchange information on educational materials. Google Classroom can be a platform to foster increased student engagement in class participation. Google Classroom is characterised by its user-friendly interface, facilitating the process for teachers to extend invitations to students either by direct invitations or by providing them with a code for access. The duration required to conduct a class is relatively short. Secondly, paperless assignments offer time-saving benefits, allowing educators to efficiently generate, assess, and evaluate assignments inside a unified digital platform. Thirdly, students can conveniently access their assignments and course materials using Google Drive folders, encompassing various forms such as documents, photographs, and videos. Fourthly, the platform enables the generation and gathering of student assignments in a digital format, maximising teachers' efficiency. Teachers can also provide each student with personalised comments and check who has finished and who has not. They can also interact with kids, make announcements, and ask real-time questions. The programme lacks adverts and ensures that teacher material and student information will not be utilised in marketing aims, primarily motivated by concerns about the security of educational institutions.

As Syakur et al. (2020) stated, to accomplish efficiency, effectiveness, and popularity, every learning method should encompass the development of instructional materials, instructional delivery strategies, and activity management. These aspects

should be designed while considering the learning objectives, barriers to learning, and individual student characteristics. Google Classroom is a flexible educational platform that facilitates the creation, distribution, and assessment of online assignments, supporting educators' instructional processes. Rahmah et al. (2021) posit that Google Classroom has been developed to appeal to diverse users, including teachers, students, parents, and administrators. Educators can effectively oversee classroom dynamics, provide assignments, and evaluate academic performance on time. Students can engage with instructional content and assignments in real-time, collaborate by sharing resources and communicating during in-class sessions or through email, submit tasks for evaluation, and receive feedback and grades. The parent is sent an email containing a summary of the assignments given to the pupil. Sianipar and Gultom (2022) assert that Google Classroom offers enormous benefits within the realm of pedagogy and knowledge acquisition. In typical colloquial language, those who are non-native speakers tend to keep away from using the English language. As a result, Google Classroom can be utilised to supplement them. The teacher has limitless time to communicate with pupils using Google Classroom. In addition, Google Classroom offers students an online platform that facilitates an English communicative environment, enabling them to engage in language practice and develop their language skills.

Multiple studies have been undertaken to showcase the efficacy of utilising the Google Classroom Platform to augment English language acquisition. Sianipar and Gultom (2022) conducted a study to investigate the impact of using the Google Classroom platform on teaching writing skills in vocational high schools. The study's findings indicate that Google Classroom is effective as an instructional tool for teaching writing to vocational secondary school participants. In the research done by Nugraha et al. (2023), it was discovered that learners had a positive inclination toward using Google Classroom for vocabulary instruction. The study emphasised the effectiveness of Google Classroom in promoting vocabulary acquisition through its interactive features, which allow for smooth communication between students and teachers in sharing vocabulary items. Piaralal et al. (2023) research shows that attitude, perceived usefulness, and technological expertise substantially influence the intention to utilise Google Classroom. A study by Taebenu and Katemba (2021) utilised Google Classroom and the Memrise platform to enhance vocabulary acquisition. The findings revealed that male and female students showed progress, with females displaying significantly higher growth.

Furthermore, another research conducted by Dewi et al. (2022) has revealed that Google Classroom dramatically improves students' information literacy, hence enhancing their critical thinking skills and their attitudes towards information management. Aningrum and Al-Baekani (2021) discovered that the students' attitudes towards using Google Classroom to learn vocabulary were not constant. The

participants shared their experiences with Google Classroom and how they understood and translated the vocabulary they acquired through its use. Therefore, the researchers categorised the attitudes into positive and negative groups.

The current research investigation also examines the perspectives of EFL students. Banaji and Heiphetz (2010) provided a specific definition of an attitude. An attitude refers to feelings, values, and actions toward a particular item, person, or event. In short, an attitude refers to a tendency or curiosity to get access to or comprehend ideas within a specific context. Therefore, individuals can express either favourable or unfavourable evaluations towards a particular object or concept. The positive attitudes of pupils in the experimental group towards social educational networks were demonstrated in a study by Janfeshan and Janfeshan (2021). Janfeshan's (2022) study revealed that Iranian intermediate EFL learners had favourable views towards utilising social networks in the classroom to enhance their writing proficiency. Based on the findings of Piriyasilpa's (2010) research, the results of the present inquiry were thus corroborated. The effects of integrating social networking into the classroom environment were the subject of his study. Her research focused on examining the language usage and attitudes of the students towards this activity.

Method

Participants

A total of 80 undergraduate Iraqi EFL students took part in this study. They are third-year students studying English in the College of Arts at Imam Jaafer Al-Sadaq University, located in Al-Muthanna City. The participants consisted of individuals aged between 20 and 24 years. Additionally, in pursuit of their B.A.s, all participants were native Arabic speakers studying English as a foreign language. For this study, two complete classes were utilised. These classes were separated into an experimental group (using the Google Classroom platform) with 50 students (25 males and 25 females) and a control group (utilising the conventional teaching method) with 50 students. The participants' enormous size was determined by assessing their language proficiency with the Nelson Language Proficiency Test. There is no interaction between the groups.

Instruments

The subsequent instruments were employed to fulfil the objectives of the research investigation:

Nelson Language Proficiency Test

The Nelson language proficiency test, a well-accepted, valid, and reliable assessment tool (Fowler & Coe, 1976), was used to ascertain the students' proficiency levels and to increase the degree of group homogeneity concerning proficiency level. The Nelson Proficiency Test has undergone thorough evaluation by different researchers, confirming its accuracy and dependability. Therefore, the test is commonly considered a reliable and valid measure of English competence (Shahivand & Pazhakh, 2012). The Nelson assessment comprised a set of 50 multiple-choice inquiries designed to evaluate students' proficiency in grammar, sentence comprehension, vocabulary, and paraphrasing skills. Twenty-five multiple-choice questions covering grammar and vocabulary constitute part one, while 25 item-closing test questions comprise part two. Each item received one point.

Course Textbook

Each of the two groups completed ten units of the textbook selected reading (Lee & Gundersen, 2013). These students were studying it in the first and second stages; thus, they needed to expand their vocabulary knowledge, which was the primary reason the researcher chose this book. Reading is a fantastic technique for learners to expand their vocabulary. As a result, in each chapter of Select Readings, Second Edition, we pay close attention to helping students improve their vocabulary-building skills. The book introduces and uses several vocabulary-building techniques. Each section on expanding vocabulary begins with a brief description and a few instances of the skill being highlighted.

Pre-test and Post-test

The investigator gave the participants instructions for a vocabulary examination as part of the intervention. The examination consisted of twenty multiple-choice questions that were taken from the textbook. The items were randomly selected for the tests. The researcher administered this test to the group. Three subject matter experts were responsible for evaluating the content of the vocabulary test developed by the instructor to ascertain its validity. These three experts have verified that the test effectively evaluated the desired construct, the recognition test. Participants were granted 30 minutes to finish the preliminary test, which consisted of twenty questions with multiple choices.

   After the researcher administers the treatment to the students, the next step is to conduct the post-test on the students. In addition, the researcher employed multiple-choice questions during the prior and final tests. The students were provided with a maximum duration of 30 minutes to respond to the question. After implementing the

intervention through the Google Classroom platform, the students' vocabulary acquisition was assessed by administering a post-test.

Questionnaire

In order to understand how students felt about utilising Google Classroom in the EFL classroom, an attitude questionnaire was used. The surveys have been regarded as a dependable tool for evaluating learners' views in an educational environment (Colosi, 2006; Radhakrishna, 2007). The study conducted by Boonrangsri et al. (2004) utilised the Language Learning Attitudes Questionnaire (LLAQ) as the fourth study tool. The LLAQ contained twenty-five questions, typically rated on a scale of one to five, which ranged from "strongly agree" to "strongly disagree," measuring attitudes towards learning the English language. The assessment focused on subjects such as their perception of themselves, limitations, taking chances, emotional flexibility, and uncertainty. Self-image refers to an individual's ideas regarding their features and skills. Inhibition pertains to a feeling of dread or humiliation. Risk-taking involves the willingness to engage in uncertain or potentially dangerous activities. Ego permeability denotes the degree of flexibility in one's ego. Lastly, ambiguity refers to situations or concepts that are unclear or ambiguous. The author of the instrument had already offered interpretation strategies and analytical methodology.

Cronbach's coefficient of dependability was used to assess the internal reliability. The Language Learning Attitudes Questionnaire coefficient was 0.78. In the social sciences, this reliability value is considered sufficient (Dörnyei, 2006). Previous research by Aliakbari and Gheitasi (2017) and Rashidi and Nazemi (2015) has established the questionnaire's dependability and validity. However, the expert judgment approach was used in consultation with two TEFL Ph. D.s and five M.A.s with majors in psychology and social sciences to examine the validity of the questionnaire. An initial questionnaire was developed to facilitate the procedure. The survey instrument used a Likert scale including 30 items that evaluated various dimensions of the Google Classroom platform, encompassing both general elements and those specifically connected to vocabulary development. Strongly disagree (1 point), disagree (2 points), undecided (3 points), agree (4 points), and strongly agree (5 points) are the scoring levels for the choice of questionnaire items.

Google Classroom Platform

Many educational institutions and universities use it as a digital education method for the educational process. Lazhari (2022) asserts that the inception of Google Classroom occurred on May 6, 2014. However, during its initial phase, the preview of this platform was exclusively accessible to a select group of users within the framework of the Google Suite for Education program. Subsequently, on August 12, 2014, Google Classroom

was made accessible to the broader public. Google has been interested in developing educational applications and technology and has launched over fifteen educational applications. In order to enhance user experience, Google has integrated multiple programs into a unified system known as G Suite for Education. This system effectively streamlines the administration of educational apps by providing a centralised interface (Lotfy, 2019, p. 173).

Google Classroom, an entirely free service within Google Apps, facilitates easy interaction between students and teachers, fostering effective collaboration within and beyond the confines of the educational setting. Additionally, it is made to simplify and organise the lives of teachers (Moonma, 2021). It is simple to manage classrooms, assign assignments, communicate, and be organised with this paperless and time-saving tool (Hulse, 2019). Hulse (2019) asserts that Google Classroom incorporates time-efficient functions that facilitate the automatic generation of individual copies of Google documents for students. This feature aids teachers in effectively managing, gathering, and evaluating assignments, eliminating the necessity for traditional paper-based methods. Classrooms serve as a means of establishing and upholding discipline for both educators and learners. Students are given access to a platform that allows them to track their assignments, and this platform also creates a separate Drive folder for each student's work. The progress of the assignments may be quickly observed by teachers, who can also immediately offer feedback and grades. Students can conveniently access the tasks on their devices, enabling them to commence their work promptly. Furthermore, learners and instructors are promptly notified and reminded of any new knowledge in the educational setting, ensuring that they remain consistently informed.

Procedures

Initially, the researcher requested 80 Iraqi EFL learners to participate in the study. These learners were then divided into two complete classes. Then, the investigator elucidated the objectives of the investigation to the learners. Participating in the study was voluntary. The classes were assigned randomly to either the control or experimental group. The researcher, who also serves as an instructor, participated in both the observation and experimental groups.

Furthermore, the training materials employed in the two groups were identical. Both sets of participants had a word acquisition test as their initial assessment. They were instructed to respond to the test items to ascertain the participants' baseline vocabulary level. The individuals comprising the control group were registered in a traditional vocabulary-learning course, where the instructor explained different concepts, and the pupils were supplied with the desired vocabulary terms.

The exercises from the textbook were used to introduce the terms to the control group in person. The students were instructed to utilise a specific, conventional approach to vocabulary instruction. Participants in the experiment group were

simultaneously exposed to and exposed to the particular features of Google Classroom. The instructor and participants in the experimental cohort engaged in collaborative communication and cooperation to enhance their lexical repertoire. The participants were instructed to engage in the task of reading a piece and comprehending its content. After the explanation, students often scanned the material to collect and analyse different words of various types before applying those words to new contexts.

In the last class, the instructor presented the identical post-test to the students in the two groups and instructed them to write their responses down. The instructor subsequently evaluated the outcomes of employing the Google Classroom platform in learners' vocabulary acquisition. A survey was given to participants in the two experimental categories at the beginning and end of the research to thoroughly analyse their thoughts on using the Google Classroom platform in English language classes.

Data analysis

The current study used SPSS software version 26 to examine the study's results. The Nelson Proficiency Test was handed out initially to ensure group similarity. A preliminary exam was conducted in order to verify that the individuals' vocabulary knowledge was comparable or nearly similar to one another. Conduct an independent t-test to determine the equivalent characteristics of both sets before treatment. An independent sample t-test was run to compare the experimental and control groups' pre- and post-test results and determine the initial research issue.

Additionally, qualitative data were determined. An independent t-test was used to evaluate the examination results of the two groups and determine if there was a statistically significant difference between them after using the Google Classroom platform compared to the traditional vocabulary learning technique. The attitude survey underwent descriptive data collection and qualitative evaluation to address the second study issue.

Results

The first research question was to determine the impact of utilising Google Classroom on the vocabulary acquisition of Iraqi EFL university students. The Mean and standard deviation of scores were obtained. Table 4.1 presents the descriptive statistics for the per-test findings. Here is Table 4.1, in which the data on the pre-test is provided.

Table 4.1

Descriptive statistics of pre-test for control and experimental groups' Vocabulary Knowledge

	Grouping	N	Mean	Std. Deviation	Std. Error Mean
Pre-test Teacher-made	Control	40	13.1750	2.42728	.38379
	Experimental	40	13.4750	2.80098	.44287

Table 4.1 illustrates the initial findings of the Control group, with a mean of 13.1750 and a standard deviation of 2.42728, and the Experimental group, with a mean of 13.4750 and a standard deviation of 2.80098. These findings suggest that the average of the Controlling and Experimentation groups is nearly identical.

Table 4.2

Independent Samples T-Test for Equality of Means for Vocabulary Knowledge

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Scores	Equal variances assumed	1.095	.299	-.512-	78	.610	-.30000-	.58603	-1.46669-	.86669
	Equal variances not assumed			-.512-	76.453	.610	-.30000-	.58603	-1.46707-	.86707

Table 4.2 indicates that there was no statistically significant distinction in the scores between the control group (M= 13.1750, SD= 2.42728, two-tailed) and the experimental group (M= 13.4750, SD=2.80098; t (98)= -.512, p=.610, p<.05) during the pre-administration of the Teacher-made Test.

The subsequent Table, Table 4.3, presents a statistical comparison of the mean scores of two groups (experimental and control groups) of students at the end of the study. The Independent Sample Test was employed to compare the two distinct unrelated groups. Table 4.3 provides information on the mean scores of students in both the experimental and control groups.

Table 4.3

Descriptive statistics of post-test for control and experimental groups' Vocabulary progress

	Groups	N	Mean	Std. Deviation	Std. Error Mean
Post-test Teacher-made	Control	40	15.7500	2.29548	.36295
	Experimental	40	16.8750	2.10235	.33241

At the end of the study, the control group had a mean of 15.7500 and a standard deviation of 2.29548, while the experimental group had a mean of 16.8750 and a standard deviation of 2.10235. The data indicates that the experimental group's Mean is higher than the control group's, with values of 16.8750 and 15.7500, respectively. However, it is necessary to determine whether this difference between the experimental and control groups is statistically significant.

Table 4.4

Independent Samples T-Test for Equality of Means for Vocabulary Post-test

Independent Samples Test

| | | Levine's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
		F	Sig.	F	Sig.(2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference Lower	Upper
Scores	Equal variances assumed	.334	.565	-2.286-	78	.025	-1.12500-	.49217	-2.10483-	-.14517-
	Equal variances not assumed			-2.286-	77.405	.025	-1.12500-	.49217	-2.10495-	-.14505-

The findings indicate that the implementation of the Google Classroom application substantially impacted students' vocabulary acquisition in the experimental group. One way to evaluate the study's hypotheses is by utilising Levene's Test. In Levene's Test, the p-value is denoted as "Sig." Here, we have two values for Sig: 0.025 and 0.05. The value of 0.025 is smaller than 0.05, suggesting a significant disparity between the averages of the experimental group and the control group. The result obtained from Levene's Test indicates that the null hypothesis can be rejected since the significance value (2-tailed) of 0.025 is lower than the predetermined alpha level of 0.05. The findings indicate that the utilisation of the Google Classroom application as a treatment in the experimental group had a significant influence on students' acquisition of vocabulary.

To address the second research question, which examines the influence of Google Classroom on the attitudes of Iraqi EFL learners toward language acquisition, an Independent-Samples t-test was performed. Table 4.5 provides an overview of the

descriptive statistics for the performance of both the control and experimental groups on the pre-administration of the Attitudes regarding language learning scale.

Table 4.5
Descriptive statistics of pre-test attitude for control and experimental groups

	Grouping	N	Mean	Std. Deviation	Std. Error Mean
Pre-test attitude	Control	40	54.7401	5.63447	.79683
	Experimental	40	53.4800	5.93931	.83995

According to the data presented in Table 4.5, the Mean for the control group was 54.74, with a standard deviation of 5.63. The experimental group showed a Mean score of 53.48 and a standard deviation of 5.93 on the pre-administration of attitudes scale.

Table 4.6
T-Test Results for the students' attitude questionnaire at the beginning of the experiment

	Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
	F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Equal variances assumed	.048	.827	1.08	78	.279	1.260	1.157	-1.037	3.55
Equal variances not assumed			1.08	97.72	.279	1.260	1.157	-1.037	3.55

Table 4.6 indicates that there was no statistically significant distinction in the results between the control group (M= 54.74, SD= 5.63, two-tailed) and the experimental group (M= 53.48, SD= 5.93; t (98)=1.08, p=.27, p>.05) prior to the administration of the attitudes towards language learning measure. The following Table presents the descriptive statistics for the scores of the control and experimental groups on the post-administration of the attitude questionnaire.

Table 4.7
Descriptive statistics for the scores of the control and experimental groups on the attitude scale post-administration

	Grouping	N	Mean	Std. Deviation	Std. Error Mean
Post-test attitude	Control	40	52.0600	5.23278	.74003
	Experimental	40	67.7399	5.48934	.77631

The descriptive statistics reveal that the control group had a mean score of 52.06 on the post-administration of the Attitude Scale, with a standard deviation 5.23. The experimental group had a mean score of 67.73, with a standard deviation 5.48.

Table 4.8

Independent Samples T-Test for Equality of Means for Vocabulary Post-test

	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		
								Lower	Upper	
Equal variances assumed	.01	.92	-11.76	78	.00	-12.61	1.07	-14.74	-10.49	
Equal variances not assumed			-11.76	97.77	.00	-12.61	1.07	-14.74	-10.49	

The results of the Independent-Samples t-test indicate a significant difference between the scores of the control group (M= 54.08, SD= 5.23) and the experimental group (M= 66.69, SD= 5.48; t (98) = -11.76, p=00, p<.05) on the post-test administration of the attitude scale. The finding demonstrated the effectiveness of Google Classroom learning in fostering positive shifts in attitudes towards language acquisition.

Discussion

The present research investigation sought to examine the influence of utilising the Google Classroom technology on the vocabulary development of Iraqi undergraduates who have taken the EFL. Eighty undergraduates were recruited and subsequently separated into two groups through random allocation. The group serving as a control received vocabulary development via traditional methods of instruction. However, the group participating in the experiment utilised the Google Classroom platform. The learners adopting Google

Classroom received most of the advantages from the intervention. Findings from the research indicated that learners who employed the Google Classroom platform achieved superior outcomes in learning new words compared to students who received instruction through conventional means. The subsequent goal of the present investigation was to explore the attitudes of English as a Foreign Language students towards using technology tools in their vocabulary and language teaching, as previously noted. Compared to the conventional classrooms where learners directly interact with the teacher, the finding demonstrated the effectiveness of Google Classroom learning in fostering positive shifts in attitudes towards language acquisition. The participants concurred that this technology is more productive in language training than existing alternatives.

In the same way, Nugraha et al. (2023) also found that students showed a favourable tendency towards using Google Classroom for vocabulary instruction. The study highlighted the effectiveness of Google Classroom in promoting vocabulary acquisition through its interactive capabilities, which allow for smooth communication between students and teachers in sharing vocabulary items. This study is thematically related to the study conducted by Nugraha et al. (2023), as both emphasise utilising educational technology to improve learning outcomes, although they concentrate on distinct subject areas. Similarly, they found that using Google Classroom to enhance vocabulary acquisition among Iraqi EFL learners combines problem-based learning with a flexible classroom approach facilitated by Google Sites to enhance mathematics achievement. Both studies illustrate the potential of digital platforms to promote interactive learning environments, increase student engagement, and facilitate independent study, thereby providing educators with pedagogical insights.

Moreover, these findings align with a research study by Piaralal et al. (2023) that showed that attitude, perceived usefulness, and technological expertise significantly impact the intention to utilise Google Classroom. A study by Taebenu and Katemba (2021) utilised Google Classroom and the Memrise platform to enhance vocabulary acquisition. The findings revealed that male and female students showed progress, with females displaying significantly higher growth. Furthermore, research has revealed that Google Classroom dramatically improves students' information literacy, enhancing their critical thinking skills and attitudes towards information management.

Similar to this study, several research investigations have shown how the development of digital academic networking has increased favourable views among EFL students (Chen, 2009; Doğan, 2019; Girgin, 2011; Kavaliauskienė, 2011; Lee & Kim, 2013; Ma'azi et al., 2018; Tumsaduak, 2014). In addition, a study by Janfeshan and Janfeshan (2021) showed that the pupils in the group participating in the experiment displayed favourable reactions regarding social and educational networks.

Conclusion

This study investigated the impact of the educational technology Google Classroom application on Iraqi EFL learners' vocabulary acquisition. This research investigation aims to establish a connection between the use of educational technology, specifically Google Classroom, in English classrooms and the enhancement of students' vocabulary acquisition and attitude towards learning in Al-Muthanah, a city in southern Iraq. The findings demonstrated that using Google Classroom effectively allowed for an in-depth understanding of the perspectives and experiences of the learners as they progressed in their learning of English. The questionnaire and quantitative analysis results indicate that students have favourable attitudes towards learning English. The present study validated that utilising Google Classroom for vocabulary education can enhance performance and collaboration. The implementation of educational technology, especially Google Classroom, has been proposed for language instruction and acquisition owing to its beneficial attributes for educators and students. Based on the findings of this study, Google Classroom can be regarded as a valuable tool for improving vocabulary acquisition since it has unique characteristics and advantages that support and enhance the acquisition of new words. Students who study languages can actively engage in online class activities, efficiently utilise online work submission features, and quickly access reference materials.

As language educators and researchers, the cheerful disposition towards Google Classroom can assure us that we wholeheartedly embrace its advantages. The primary responsibility lies with the Iraqi policymakers and government to ensure undeveloped countries have the necessary infrastructure to access and benefit from new technology. Google Classroom is a dependable instrument for language study and can be efficiently utilised for vocabulary education. Learners can utilise words in context through assignments, quizzes, notes, and debates.

The current research investigation has ramifications for students, educators, researchers, and politicians. Students of foreign languages can benefit from engaging in the online practice of new vocabulary without experiencing the stress and drawbacks of typical classroom settings. They engage in communication in a unique manner previously encountered. This research has implications for educators. They can attain exceptional educational results without being bound by the constraints of the physical setting. The instructor can categorise this fresh innovation as an instrument that enhances and incorporates established methodologies with Internet technologies. Unlike traditional classrooms, Google Classroom-based instruction offers teachers an enhanced ability to monitor the teaching and learning process easily. The finding may also have ramifications for academics in the field of language. It might be regarded as an exciting field for research tools in language studies. Policymakers can provide infrastructure to enhance education in Iraq, as learners favour this technology.

The limitations of the current investigation were as follows: The research results have limited generalisation across multiple disciplines. The issue of demographic generalizability arises due to the inclusion of both male and female Iraqi English learners as subjects in the study. Consequently, the findings should only be applied to individuals with similar background traits and performance. The primary constraints are the relatively limited number of participants and the limited scope of the investigation. Further studies should encompass a substantial group of participants chosen from a broader range of pupils from diverse class levels. The study's emphasis on students' vocabulary learning implies that Google Classroom has the potential to be an effective instructional tool at this educational level. However, further research is required to support these findings and justify their applicability to other settings.

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