



Iraqi EFL University Students' Coping with Multitasking and Performance in Productive Skills: A Correlational Study

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Abstract

Language is critical for the development of human society. It is an essential mode of communication among individuals, groups, and nations. Nowadays, an increasing number of people are learning English as a foreign or second language, with the main objective of achieving English proficiency and to communicate with others. Productive skills allow learners to express their thoughts, ideas, and opinions in English. They enable learners to participate in conversations, engage in discussions, and convey their messages effectively. Multitasking refers to the ability to handle and manage multiple tasks simultaneously. Therefore, the current study investigates the relationship between coping with multitasking and performance in productive skills among Iraqi EFL University students. To this purpose, a sample of 360 students from different Iraqi universities (including Baghdad, Basra, and Mosul), colleges of education-English departments were selected randomly during the academic year (2022-2023) as a sample for this study. Two instruments are used to collect data: a questionnaire to measure coping with multitasking, and productive test to assess students' speaking and writing performance. A correlational analysis is conducted to examine the relationship between coping with multitasking and performance in productive skills. The findings indicate that Iraqi EFL university students possess a good level of coping with multitasking. Furthermore, the study reveals a positive correlation between coping with multitasking, and productive skills which is suggesting that students who employ these multitasking perform better in speaking and writing. The results also demonstrate that coping with multitasking significantly contribute to explaining the variation in productive skills.

Keywords: Coping with Multitasking, EFL, Speaking Performance, Writing Performance



التعامل مع تعدد المهام والأداء في مهارات الإنتاجية لدى طلاب الجامعة العراقيين دارسي اللغة الإنجليزية كلغة أجنبية: دراسة ارتباطية

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المستخلص

اللغة أمر بالغ الأهمية لتطور المجتمع البشري. إنها وسيلة أساسية للتواصل بين الأفراد والجماعات والأمم. في الوقت الحاضر، يتعلم عدد متزايد من الأشخاص اللغة الإنجليزية كلغة أجنبية أو لغة ثانية، بهدف رئيسي هو تحقيق إتقان اللغة الإنجليزية والتواصل مع الآخرين. تتيح المهارات الإنتاجية للمتعلمين التعبير عن أفكارهم وأفكارهم وآرائهم باللغة الإنجليزية. أنها تمكن المتعلمين من المشاركة في المحادثات، والمشاركة في المناقشات، ونقل رسائلهم بشكل فعال. كما يشير تعدد المهام إلى القدرة على التعامل مع مهام متعددة وإدارتها في وقت واحد. لذلك، تتناول الدراسة الحالية العلاقة بين التعامل مع تعدد المهام والأداء في المهارات الإنتاجية لدى طلاب جامعة العراقيين دارسي اللغة الإنجليزية كلغة أجنبية. ولهذا الغرض تم اختيار عينة مكونة من ٣٦٠ طالباً من مختلف الجامعات العراقية (منها بغداد والبصرة والموصل) وكليات التربية - أقسام اللغة الإنجليزية بشكل عشوائي خلال العام الدراسي (٢٠٢٢-٢٠٢٣) كعينة لهذه الدراسة. من أجل تحقيق أهداف الدراسة، تم استخدام ثلاث أدوات لجمع البيانات: استبيان لقياس التعامل مع تعدد المهام، واختبار إنتاجي لتقييم أداء الطلاب في التحدث والكتابة، وتم إجراء التحليل الارتباطي لفحص العلاقة بين التعامل مع تعدد المهام والأداء في المهارات الإنتاجية. تشير النتائج إلى أن طلاب جامعة اللغة الإنجليزية كلغة أجنبية يمتلكون مستوى جيد في التعامل مع المهام المتعددة. علاوة على ذلك، كشفت الدراسة عن وجود علاقة إيجابية بين التعامل مع تعدد المهام والمهارات الإنتاجية مما يشير إلى أن الطلاب الذين يستخدمون هذه المهام المتعددة يودون أداءً أفضل في التحدث والكتابة. وأظهرت النتائج أيضاً أن التعامل مع تعدد المهام يساهم بشكل كبير في تفسير التباين في المهارات الإنتاجية.

الكلمات المفتاحية: التعامل مع تعدد المهام، أداء الكتابة، أداء التحدث، اللغة الإنجليزية كلغة أجنبية

1. Introduction

Speaking and writing skills are extremely important in any language education course. English has become an increasingly dominant language in every aspect of communication, both locally and internationally, in the era of globalization. According to Goh & Burns (2012); Dawood (2021), as long as the ultimate goal of learning is to communicate in a foreign language, the development of productive abilities will continue to be an essential component of both the content of the curriculum and the outcomes of the learning process.

According to Harmer (2001), the concept of productive skills related to the communication skills in which students actively generate the language. The term "productive skills" is used to describe the ability of students to utilize language in order to convey a message through either spoken or written forms. (Hubackova & Golkova, 2014).

On the other hand, Sanderson (2012) define *multitasking* as “the ability to engage in one or two tasks simultaneously, often involving the concurrent processing of different types of information or the execution of different cognitive processes” (p. 30), i.e., whereby multitasking requires: (a) performing multiple tasks; (b) consciously shifting from one task to another; and (c) performing the multitasking over a relatively short time span.

Additionally, Multitasking can simulate real-life situations where students need to engage in speaking and writing while simultaneously attending to other tasks or stimuli. In academic settings, students often need to juggle multiple responsibilities, such as participating in meetings while taking notes or writing emails while attending to phone calls (Albayati, 2023). Developing multitasking skills can help individuals perform well in such scenarios. However, it is important to note that multitasking can also have some negative impacts on speaking and writing. Engaging in multiple tasks simultaneously can increase cognitive load, which refers to the mental effort required to perform a task.

In EFL educational environments, as stated by Dawood & Ali (2019), students attend lectures to engage in the activities proposed in class, and as described by Sana et. al. (2013) “the presumed primary tasks in many university classes are to listen to a lecture, consolidate information spoken by the instructor and presented on information slides or PowerPoint, take notes, reading text, ask or respond to questions and writing an essay” (p. 25). Thus, the situations when students’ alternate cognitive activities in their class are considered multitasking behavior in this study. Multitasking might have a different impact on speaking performance compared to writing performance.

Speaking tasks often require real-time processing and immediate verbal responses, which may be more affected by multitasking demands. Writing tasks, on the other hand, may involve more planning and self-regulation, which could potentially allow individuals to manage multitasking more effectively.

In Iraq, teaching English as a foreign language constitutes an important process in the whole educational system. To master English, we have to strengthen: Listening, Speaking, Reading and Writing. The most needed nowadays is speaking and writing which is known as productive skills because they permit learners to perform in communicative aspects such as oral presentations, written studies and reports among others. Therefore, these skills need to be developed and learnt properly (Sadikov, 2021). However, both instructors and learners of foreign languages frequently encounter challenges and obstacles particularly throughout the process of learning and teaching productive skills. Thus, characteristics like multitasking have a significant role in the language learning process and overall performance of Iraqi EFL students. Attempts have been made to study how this variable is connected to the English productive performance of these students.

After reviewing the literature, no study has explored the relationship between coping with multitasking and performance in productive skills among Iraqi EFL University students. The current study aims to fill this gap effectively.

However, the research questions are:

1. What are Iraqi EFL university students' level in coping with multitasking and their performance in productive skills?
2. Is there a correlation between Iraqi EFL university students' level in coping with multitasking and performance in productive skills?

2. Theoretical Framework

2.1 The concept of coping with multitasking

Coping is defined by Folkman and Lazarus (1988, p. 25) as “changing cognitive and behavioural effort to manage particular internal and external factors that are seen as taxing or exceeding the person's resources”. As well as, *Task* is “ a range of learning activities from the simple and brief exercises to more complex and lengthy activities such as group problem-solving or simulations and decision-making” (Breen, 1987, p. 23) .

According to Halim & Halim (2023), multitasking involves simultaneously undertaking any number of tasks that ultimately accomplish one primary

objective. Multitasking is the practice of performing separate activities in a sequential order (Dzubak, 2008). It differs from (*dual-task*) paradigms in that the activities are interleaved rather than being done concurrently. It differs from (*task-switching*) paradigms in that the time scale is significantly longer, several tasks are engaged, and the majority of tasks have a definite end point (Burak, 2012; Amez et. al., 2022).

Multitasking refers to the attempt to perform multiple tasks simultaneously. It is a common practice in today's fast-paced world, where student often try to juggle multiple tasks at once in order to be more productive and efficient.

2.1.1 The Nature of Multitasking in Human Brain

The term "*multitasking*" is historically associated with the introduction of computers in the 1950s and 1960s (McDonald & Meng, 2009), where it refers to the use of a processing unit to perform multiple tasks at the same time (Cardose-Leite et. al., 2014). However, with the advent of the "Cognitive Revolution," which compared the human brain to computers in information processing, the term "multitasking" was introduced in the psychological and cognitive sciences.

Moreover, many researchers suggest that the human brain has inherent limitations in attention and working memory capacity, which can impact multitasking abilities. Popławska et. al., (2021) argues that multitasking has the potential to energise individuals and enhance their alertness. The presence of this energy can facilitate the enhancement of idea creation. According to Lin (2013), engaging in activities and receiving learning may improve brain processing speed, enhance working memory, and increase our capacity to multitask.

2.1.2 The Nature of Multitasking in EFL

Multitasking, at least the early 1990s, as it is understood in the educational system literature, adopts some of the conceptualizations introduced in cognition processes as well as computer science but may use different terminology. In the context of EFL (English as a Foreign Language) learning, multitasking refers to the ability to engage in multiple language-related tasks simultaneously. It can play a significant role in language acquisition and proficiency development (Wood & Zivcakova, 2015).

Multitasking in EFL involves integrating various language skills in order to enhance overall language proficiency. It requires learners to combine listening, speaking, reading, and writing skills in real-time or near-

simultaneously during language learning activities (Ferris, 2014). As well as, it requires learners to allocate attention, cognitive resources, and linguistic knowledge to perform multiple language tasks effectively. Learners may switch between reading and writing, listening and speaking, or comprehension and production tasks, adapting to the demands of each task (Dawood, 2013; Brüning, et. al., 2020).

In the other hand, some examples of human multitasking in EFL presented by (Vandergrift, 2004; Ferris, 2014; Arslantas, 2017; Broecker et. al., 2018; and Brüning, et. al., 2020) as follows:

1. **Listening and Note-taking:** Students can listen to audio or video materials, such as lectures, podcasts, or interviews, while simultaneously taking notes. This multitasking activity helps improve listening comprehension skills while reinforcing the ability to extract key information and organize thoughts through note-taking.
2. **Reading and Summarizing:** Learners can read authentic texts, such as articles, essays, or short stories, and then summarize the main ideas or key points. This multitasking activity enhances reading comprehension while promoting synthesis and summarization skills, as well as vocabulary expansion.
3. **Vocabulary Practice while Speaking:** During speaking practice, students can incorporate targeted vocabulary or phrases they are currently learning. Multitasking in this way allows learners to apply new vocabulary in meaningful contexts, reinforcing their speaking skills and expanding their active vocabulary repertoire.
4. **Writing and Grammar Practice:** While writing, learners can actively apply grammar rules or structures they have recently studied. This multitasking activity helps reinforce grammatical concepts while developing writing skills, such as sentence structure, coherence, and cohesion.
5. **Speaking and Pronunciation *Focus*:** While engaged in speaking activities, students can pay specific attention to pronunciation and intonation patterns. By multitasking in this manner, learners can improve their spoken fluency and accuracy while honing their pronunciation skills.
6. **Integrated Skills Tasks:** Multitasking can be accomplished through integrated skills tasks, where learners engage in activities that involve multiple language skills simultaneously. For example, learners can participate in discussions or debates that require reading

comprehension, listening comprehension, speaking, and critical thinking skills.

2.1.3 Types of Multitasking

According to Pashler (1994); Olson & Olson (2000); Salvucci & Taatgen (2010); and Ophir, et. al., (2009), there are two types of multitasking: *concurrent*, and *sequential* which can be summed as follows:

a. Concurrent Multitasking

Dönmez, & Akbulut (2021) described *Concurrent multitasking* as performing multiple tasks simultaneously. This type of multitasking involves dividing attention between two or more tasks at the same time. For example, listening while taking notes in a lecture with frequent switches (every few seconds) between the two tasks (Visser, 2017).

Concurrent multitasking can be challenging because the human brain has a limited capacity for processing information, and attempting to divide attention between multiple tasks can result in cognitive overload and reduced performance (Jamet et. al., 2020). However, Redick et al. (2016) claim that some students may be more skilled at concurrent multitasking than others, and may be able to manage attentional resources more effectively.

Liu et. al., (2018) note that individuals who are skilled at concurrent multitasking may be able to perform multiple tasks more efficiently than those who are less skilled, as well as Adler & Benbunan (2015) found that concurrent multitasking can effect overall productivity and lead to increased performance and decreased errors.

b. Sequential Multitasking

Sequential multitasking refers to the ability to switch between multiple tasks in a sequential or serial way, rather than attempting to perform multiple tasks simultaneously (Koch & Kiesel, 2022). Sequential multitasking involves performing multiple tasks in a specific order or sequence, focusing on one task at a time before moving on to the next (e.g., when student writing a paper for several minutes to hour before switching to another task, perhaps later resuming the original interrupted task), each task receives focused attention during most of its allocated execution time (Monsell, 2010; Röttger et. al., 2019).

Unlike concurrent multitasking, which involves dividing attention between multiple tasks at the same time, Adler & Benbunan (2015) argue that sequential multitasking allows individuals to focus their attention on one task at a time, which may improve performance and decrease errors. Also, Waite et. al., (2018) clarify that by breaking tasks down into smaller, more manageable components, individuals may be able to maintain their focus and

productivity over a longer period of time. To engage in effective sequential multitasking, Ahmad et. al., (2021) state that students must be able to prioritize tasks, manage their time effectively, and develop effective multitasking activities.

2.1.4 Factors of Multitasking

Several factors effective on multitasking, some of them are: Working memory; *attention control* which can be summed as follows:

1. **Working memory** is described as the ability to store knowledge for short periods of time while doing simultaneous processing (Colom et. al., 2010). For instance, students with high WMC accurately identified various stimuli while attending to other tasks (Contemori, et. al., 2022), and performed better in multitasking when asked to attend to them simultaneously (Colom et. al., 2010). Students can optimize their cognitive abilities and increase their performance on difficult cognitive multitasking by comprehending the nature of working memory and using efficient strategies to enhance working memory performance.
2. **Attention control** refers to the ability to concentrate and direct one's attention towards certain tasks, stimuli, or information while disregarding any distractions (Draheim et. al., 2022). People can only process information when they pay attention to it (Silasi-Mansat, 2015). This means that attention is the main “gateway” (Wei et al., 2012) of information processing. Cognitive theories based on information-processing (Kane et. al, 2001; Shadiev et. al., 2020) and multimedia learning (Mayer & Moreno, 2003; Kao, 2023) argue that for “meaningful learning” to occur, students must actively process information, focus their attention on new information and actively arrange and integrate new information into preexisting knowledge structures.
3. **Cognitive load theory** is concerned with studying the relation between the resources required to complete a task and the brain's ability to provide those resources effectively (Paas et. al., 2003). Based on CLT, this capacity might be exceeded if students are presented with too much information or tasks simultaneously (Kirschner et. al., 2019). According to this view, effective multitasking allows students to regulate their cognitive load by judiciously distributing their focus and attention to the most significant tasks (Örün & Akbulut, 2019).
4. **Individual differences** in multitasking refer to the variations observed among individuals in their ability to effectively manage and perform multiple tasks simultaneously (Seddon et. al., 2021). Therefore, discriminating against individuals who can cope with multiple

taskdemands and maintain consistent performance from their less-adaptable counterparts has significant applied implications (Lui, 2021). Thus, Individuals differ in their aptitude for multitasking due to various characteristics, such as anxiety, perceptual speed, gender, sensation seeking, and motivation (Dönmez & Akbulut, 2021).

2.1.5 Advantages and Disadvantages of Multitasking

According to Hwang & Jeong (2018); Jamet et. al., 2020 and Halim & Halim, 2023 suggested that multitasking includes several advantages, which they are:

1. **Cognitive Flexibility:** Multitasking can provide students with the flexibility to work on multiple tasks at the same time. Learners need to be able to switch their focus between listening, speaking, reading, and writing tasks, as well as adjust their cognitive processes to different linguistic and communicative contexts.
2. **Time management:** Multitasking can be useful for managing time effectively, as it allows students to complete multiple tasks within overlapping time frames.
3. **Patience and Persistence:** Coping with multitasking in EFL requires patience and persistence. Learning a language and managing multiple tasks simultaneously can be challenging and overwhelming at times. Learners need to adopt a growth mindset, persevere through difficulties, and maintain motivation and dedication to improving their multitasking skills over time.
4. **Chunking and Automation:** Breaking down complex tasks into smaller, manageable chunks and automating certain language skills can aid in multitasking. For example, learners can practice and internalize common phrases, expressions, and sentence structures, allowing them to generate language more effortlessly while focusing on other tasks. This helps free up cognitive resources for other aspects of multitasking.
5. **Technology Integration:** Utilizing technology tools and applications can support multitasking in EFL. Digital platforms provide opportunities for practicing different language skills simultaneously, such as engaging in online discussions, conducting research while writing, or listening to podcasts while completing comprehension exercises.
6. **Feedback and Reflection:** Regular feedback and reflection are essential for improving multitasking skills in EFL. Learners should seek feedback from instructors, peers, or language partners to identify areas of strength and areas needing improvement. Reflecting on their

multitasking experiences, identifying challenges, and setting goals for improvement can contribute to enhanced performance over time.

However, that while there may be some potential benefits of multitasking in education, research has shown that multitasking can have disadvantage or negative effects on productivity and performance (Becker, et. al., 2018; Appelbaum et al. 2008). Some reasons why multitasking can be problematic:

1. **Attentional limitations:** Our attentional capacity is limited, and trying to divide our attention among multiple tasks can lead to decreased focus and lower quality performance on each task.
2. **Interference:** When we switch between tasks, there is often interference between the two tasks, which can disrupt our ability to perform either task effectively.
3. **Memory limitations:** Our working memory capacity is also limited, and trying to keep multiple tasks in our working memory can lead to cognitive overload and decreased performance.
4. **Stress:** Trying to juggle multiple tasks at once can be stressful, leading to increased levels of anxiety and decreased performance.
5. **Reduced performance:** When students try to do multiple tasks at once, their performance on each task may suffer due to divided attention and decreased focus.

2.1.6 Multitasking Strategies

According to Amez et. al., (2022); Brüning (2020); Carrier (2015); Halim & Halim (2023), Multitasking strategies are techniques that can be used to help students manage their attention and focus more effectively when students do multitasking or activities simultaneously which can be summarized as following:

1. **Prioritizing tasks:** Students can prioritize their tasks based on their importance and urgency, and can allocate their time and attention accordingly. This can involve creating a to-do list or schedule of tasks, and deciding which tasks to focus on first.
2. **Chunking tasks:** Students can break down larger tasks into smaller, more manageable chunks, and can focus on completing each chunk before moving on to the next. This can help students to avoid feeling overwhelmed by complex or time-consuming tasks.
3. **Time management:** Students can use time management strategies, such as setting time limits for each task and taking breaks at specific intervals, to help them manage their attention and focus more effectively. This can help students to avoid cognitive overload and stay on task.

4. **Note-taking:** Taking notes can help students to stay focused and engaged during lectures or reading assignments. By taking notes, students can actively process the information they are learning, which can help improve their understanding and retention of the material.
5. **Self-reflection:** Students can reflect on their own multitasking strategies and assess their own performance and progress, which can help them to identify areas for improvement and adjust their strategies as needed.
6. **Minimize distractions:** Reducing exposure to distractions, such as turning off notifications on electronic devices and minimizing interruptions, can help to improve multitasking performance by reducing the cognitive load associated with managing multiple sources of information simultaneously.
7. **Practice and training:** Regular practice and training exercises can help to improve cognitive abilities such as attention control and working memory capacity, which are essential for effective multitasking performance.
8. **Mindfulness meditation:** Mindfulness meditation can help to improve attention control and reduce stress, which can improve multitasking performance by increasing the ability to selectively attend to relevant information while filtering out distractions.

2.2 Language Productive Skills

The four skills in foreign language learning are listening, speaking, reading, and writing. According to Roquet & Pérez-Vidal (2017), skills can be classified into two categories: “receptive skills, encompassing listening and reading, and productive skills, which involve speaking and writing” (p. 12).

As for Harmer (2001), the concept of productive skills pertains to the linguistic abilities in which students actively generate the language. Whereas, Hubackova and Golkova (2014) define productive skills as “as active skills, as the ability of a language user to convey information in written or spoken form” (p.478). These skills are utmost importance as they enable learners to be engaged in various communication activities such as delivering oral presentations, conducting written research, and preparing reports, among other forms of expression (Krebt, 2023; Shaimaa’ Abdulbaqi Al-Bakri, 2011).

Speaking and writing skills are critical because they enable students to perform real-world tasks in the classroom (Al-Bakri, 2018). Additionally, PS requires an understanding of the intended audience, context, and purpose of communication. Thus, learners need to develop their language skills, and specifically academic English, in order to:

- a. Understand and make the most effective use of study materials.

- b. Develop the specialized language and vocabulary relevant to the subject.
- c. Interpret assignment questions and select relevant and appropriate material for response.
- d. Write well-structured and coherently presented assignments, without plagiarism.
- e. Communicate their own needs to their tutors.
- f. Work productively with other students.
- g. Learners can engage in activities such as conversations, role-plays, debates, presentations, and writing exercises.
- h. Feedback from teachers or native speakers can be valuable in identifying areas for improvement and refining these skills.

2.2.1 Speaking Skill

The ability to speak is a fundamental aspect of learning a foreign language. It is an important skill for dynamic communication. It is a primary method to evaluating the ability of someone to acquire FL. Moreover, it is the most distinctive characteristic of humans that sets them apart from other living beings. Luoma (2004) and Ulashovna (2020) state that speaking is the ability to articulate words, phrases, and sentences in a spoken form.

In line with that, Speaking in FL/SL has been considered the most challenging of the four skills given the fact that it involves a complex process of constructing meaning (Clece-Murcia and Olshtain, 2000). This process requires speakers to “make decisions about why, how and when to communicate depending on the cultural and social context in which the speaking act occurs” (Burns and Seidlhofer 2002, p. 106).

Whereas, Chaney (1998, p. 13), noted that speaking is “the process of building and sharing meaning through the use of verbal or non-verbal symbols in a variety of contexts”. Also, Nunan (2003) and Abdulrazzaq (2023) affirms that for the successful acquisition of the speaking skill in the target language, some sub-skills should be developed, such as expertise on stress, rhythm, intonation patterns; transactional and interpersonal skills; and an acceptable degree of fluency.

2.2.2 Writing Skills

Writing is often regarded as the most complex language skill for those who are learning English as a foreign language because of its complicated grammatical structure, vocabulary, pronunciation and spelling (Rao, 2017; Al-Kubaisy, 2018). Camps (2017) define writing as reflective activity that requires enough time to think about the specific topic and to analyze and classify any background knowledge.

In the same way, Olshtain (1991, p.235) states, “Writing as a communicative activity needs to be encouraged and nurtured during the

language learner's course of study". Furthermore, Richards and Schmidt (2002) assert, "Writing is viewed as a result of complex processes of planning, drafting, reviewing and revising".

Additionally, Writing skills are important for various purposes, such as academic assignments, professional communication, creative writing, and formal documentation (Saraswati, 2022; Abed, 2019). Thus, developing writing skills requires proficiency in grammar, vocabulary, spelling, punctuation, and the ability to convey ideas clearly and effectively (Suteja & Setiawan, 2022).

2.3 Related Works

2.3.1 Junco & Cotton (2012)

This study aims to look into the relationship between multitasking and language performance as well as assess the frequency at which students engage in multitasking during class. The instrument utilized in this study was developed by formulating questions derived from previous studies on multitasking in student technology usage (Rideout et. al., 2010 and Smith et. al., 2011). The study sample consists of (1,774) students from a university in the Northeastern United States who have been chosen at random. The study revealed that engaging in multitasking with social media technology, such as Facebook , Telegram and e-mail has a negative relationship on language performance .In other words, students who frequently multitasked with platforms like Facebook, Telegram, and Email during class showed lower levels of language performance. The negative relation of multitasking on language performance implies that dividing attention between language-related tasks and engaging with social media platforms hinders the students' ability to concentrate and fully engage with the language learning materials or activities. This study is disagreement with current study.

2.3.2 Srna, Schrift, & Zauberman (2018)

The aim of this study is to determine the relationship of multitasking and students listening performance. A total of (162) participant were chosen at random from a northeastern university in Philadelphia in USA. The instrument utilized in this study to collect data was listening performance test. The participants were then randomly divided into two conditions: multitasking and single-tasking. The findings show that students who perceived an activity as multitasking are more engaged and consequently outperformed those who perceived that same activity as single-tasking and the students had a moderate level of multitasking. The findings suggest that if students are already doing multiple tasks, they should increase engagement and improve their performance. As well as, this result is consistent with current study.

3. The Analytical Part

3.1 Methodology of the Study

One of the critical decisions that a researcher should make is to select an appropriate design for research work. Correlational research is designed to determine the relationships between two or more variables (Curtis et. al., 2016). According to Mills & Gay (2016), correlational research is referred to as descriptive research because it describes an existing relationship between variables and reveals the differences between them in order to describe and analyze, collecting data to determine whether, and to what degree a relationship exists between two or more quantifiable variables.

3.2 Population and Sample

The population in the present study represents (4511) third year university students who are studying in morning studies in the Department of English at the Iraqi colleges of education for human sciences except Kurdistan region during the academic year 2022-2023. While the study sample consists (360) third-year university students who are selected randomly from the colleges of education in three universities: Baghdad, Basra and Mosul as is it displayed in Table (1) below:

Table (1)
Sample of the Study

No.	University	College	Percentage %	Sample
1	Baghdad University	College of Education /Ibn Rushd	35	122
2	Basra University	College of Education for Human Sciences	35	173
3	Mosul University	College of Education for Human Sciences	30	65
Total			100	360

3.3 Instruments

Two instruments have been used to achieve the present study's aims. The first one is coping with multitasking questionnaire (CWMQ), which has been developed from Sanderson, Kristin R., (2012) to discover the level of students in coping with multitasking. This instrument consists of (20) items that are scored on a five-point Likert-style scale (strongly disagree, disagree, neutral, agree, strongly agree), which are given the corresponding score (1, 2, 3, 4, 5) for positive items and vice versa for the negative items. The total score for the questionnaire is calculated by summing the scores obtained by the respondent for each score chosen. Therefore, the lowest score can be (20), while the

highest score that the respondent can receive is ($20 \times 5 = 100$). The higher scores indicated the higher levels of coping with multitasking and vice versa for the lower scores.

The second instrument, the productive skills performance test (PSPT), consists of two parts, the first is devoted to speaking skill (the interview test) and the second is related with the writing skill (the essay writing test).

a. Part One: Speaking Skills

Before exposing the draft test to the jury members, the researcher consulted relevant literature on the topic to prepare the productive skills test. To test students' speaking performance, the researcher herself prepares and develops a structured interview. According to Fulcher (2012), the most popular speaking exam type is the interview format, in which test takers speak with an interviewer while their performance is examined.

Thus, this test consists of interview questions are given by the researcher herself to the student by several cards which ask them to choose only just one from the interview questions, and the researcher records the answer with a recording device and presents it to experts who speak semi-native English who conduct the evaluation of students. In accordance with the jury members' advice, the interview tool includes (6) major interview questions and (4) sub-interview questions for each major question to be (24) total interview questions. The total score is (20) according to scoring rubric which consists of five components of speaking: Fluency, Pronunciation and accent, Vocabulary, and Grammar. These components are leveled from one to five (poor, fair, good, v. Good, excellent). Thus, the highest score a student can get is (20) while the lowest score is (5). The topics are chosen based on their relevance to the sample's interest and level, their authenticity, and how current they are conceptualized.

The interview lasts (11 to 15) minutes and is recorded on an audio cassette. The test has been divided into two phases as follows:

Phase 1: is an introduction, which consists of a series of brief questions and responses designed to familiarize the student with the test . The examiner or teacher asks relatively simple questions about the participant's home, family, country, jobs, studies, interests, and so on.

Phase 2: is an individual long turn in which the student must talk for (2 to 3) minutes on a chosen topic. Each student is given a subject matter and is required to discuss it in the form of a monologue with a time constraint of (2 to 3) minutes.

b. Part Two: Writing Skills

The second part deals with the writing skill, the students are asked to write an essay in response to a question that asks them to state, explain, and support their opinion on an issue. An essay is generally a short piece of writing outlining the writer's perspective or story. Essay writing is the process of expressing one's thoughts, ideas, opinions, or arguments in written form (Sreena & Ilankumaran, 2018). Essays can take various forms and fulfill different purposes. Some common types of essays include: Narrative Essays, Descriptive Essays, Expository Essays, Argumentative essays and Persuasive Essays. The type of essays used in the present study is formal expository essays.

In the writing skill test, an effective essay will contain a minimum of (250-300) words. The writing subject is chosen in accordance with the topics they have previously covered as well as the criterion of authenticity. The total score is (20) according to scoring rubric which consists of five components of speaking: *Content, Organization, Vocabulary, Grammar, and Mechanics*. These components are leveled from one to four (poor, fair, good, excellent). Thus, the highest score a student can get is (20) while the lowest score is (4).

3.4 Psychometric Properties of the Instruments

3.4.1 The Validity

Validity is the first aspect to be checked when constructing any type of instrument (Davies et. al., 1999; Mills & Gay, 2019). Two types of validity have been estimated: *face validity and constructing validity*, which presented as follows:

3.4.1.1 Face validity

Phillips, et. al., (2021) state that *face validity* is the appropriateness, sensibility, or relevance of the test and its items as they appear to the persons answering the test. To ensure the face validity of the two study instruments, they have been exposed to a jury of a specialist in ELT, and applied Linguistics. The jury members are asked to decide on the appropriateness of the instruments in measuring the investigated variables. The jury includes 15 professors and assistant professors from different Iraqi universities. The jury members agree on the suitability of the three instruments and the scoring scheme for achieving the study's aims, except for some linguistic modifications which are taken into consideration, before putting the final form of each instrument.

3.4.1.2 Construct Validity

Construct validity refers to the extent to which an instrument measures the trait, theoretical ability or construct that is intended to measure (Li, 2016). To ensure the construct validity of the three instruments, they have been verified by finding out the the discrimination power and item total correlation for the questionnaire and the discrimination power and item difficulty level for productive skills test. These methods can help to identify patterns, trends, and relationships in the data, and to test whether these findings are statistically significant. Results show that all the correlational coefficients are statistically significant and this indicates that the three instruments of the study are valid.

3.4.2 Pilot Administration

Pilot administration refers to the preliminary or initial implementation of a research study or assessment on a smaller scale before conducting the full-scale study or assessment. It allows researchers to test the feasibility, effectiveness, and reliability of their research tools, as well as to gather feedback from participants regarding the clarity, comprehensibility, and relevance of the items or tasks (Cohen et. al., 2007). The two instruments have been conducted on a sample of 50 students (not included in the main sample) from the Department of English - College of Education Ibn Rushed for Human Sciences is selected to conduct the pilot administration of the research instrument. The pilot study is carried out on 19th, 20th, of February, 2023.

Consequently, the application of the pilot study shows no serious ambiguity concerning answering the instruments. The time required to answer the CWMQ is found to range between (15-25) minutes. The time required for the speaking test (11-15) minutes for each student and writing test is (35) minutes, the whole lesson which is (50) minutes.

3.4.3 Item Analysis

According to the aims of the study, the statistical methods by SPSS are employed to analyze the research findings of this study.

3.4.3.1 Discrimination Power

Discriminatory power refers to the extent to which individual items on a scale are able to distinguish between people who have different levels of the construct being measured (Karim, et. al., 2021). The questionnaire is applied to the sample members of (360) students. To extract the discriminatory power of the questionnaire's items, the scores of the sample members are arranged from the highest total degree to the lowest total degree. The two extreme groups are determined by the total score and by (27%) for each group which represents the best percentage that can be adopted, because it presents two groups with

the maximum possible size and differentiation. As well as, Trochim et al., (2015) suggested that the number of members of each of the two extreme groups in the total score when calculating the discriminatory power of the items is (27%) of the sample members. The number of individuals in each group is (97) students in the upper group and (97) students in the lower group. So, the number of individuals in the upper and lower groups was (194) male and female students.

Concerning the coping with multitasking questionnaire, the mean, standard deviation for the upper and lower groups responses on the scale items have been calculated. Then, t-test for two independent groups have been used to find out the significant differences of the two groups` scores. For the coping with multitasking questionnaire, it becomes clear that all items are distinguished because their calculated t-value is greater than the critical t-value (1.96) with a degree of freedom (192) and at the level of significance (0.05). Table (2) shows the results of calculating the discriminatory power of the items for CWMQ.

Table (2)
Items Discrimination Power of CWMQ

Items No.	Higher group		Lower group		Calculated T-value	Level of Significance at level (0.05)
	Mean	SD	Mean	SD		
1	3.794	0.877	2.866	1.019	6.901	Significant
2	3.938	0.911	2.814	0.782	9.361	Significant
3	3.289	0.889	2.918	0.865	2.992	Significant
4	3.722	0.887	2.948	1.152	5.318	Significant
5	3.876	0.971	2.763	0.972	8.105	Significant
6	3.784	0.844	2.948	0.984	6.442	Significant
7	3.825	0.890	3.000	0.873	6.614	Significant
8	3.515	0.879	2.856	0.966	5.419	Significant
9	3.742	0.845	2.969	0.925	6.154	Significant
10	3.794	0.749	2.887	1.014	7.195	Significant
11	3.639	0.831	2.619	0.870	8.479	Significant
12	3.732	0.836	2.887	0.872	6.999	Significant
13	3.804	0.656	3.289	0.906	4.610	Significant
14	3.567	0.877	2.804	0.988	5.775	Significant
15	3.392	1.026	2.804	0.998	4.104	Significant
16	3.371	0.950	2.711	0.972	4.856	Significant
17	3.278	0.997	2.732	0.939	3.988	Significant
18	3.608	1.006	2.763	0.975	6.036	Significant
19	3.835	0.862	2.722	0.894	8.963	Significant
20	3.897	0.884	2.990	0.979	6.878	Significant

The results indicate that the values of discrimination power for PSPT range between (0.340_0.423) as demonstrated in Table (3) for speaking skills and (4)

for writing skills. Such results reveal that all the items yield high discrimination powers which the specialists consider the acceptable discrimination power of an item is (0.20) or more (Nuanaly, 1970; Ebel & Frisbie, 1991).

3.4.3.2 Item Difficulty Level

Item difficulty is defined as “the extent to which an item is easy or difficult to a group of students” (Brown, 2004, p. 59). If the test is too easy, it may not effectively differentiate between high- and low-achieving test-takers, while if it is too difficult, it may not provide a reliable measure of ability (Mesic, 2011).

As far as PSPT is concerned, the difficulty formula of subjective questions is used to show the difficulty level of PST scoring components. The difficulty level is found to range between (0.381 – 0.457) that means all of tests items are acceptable and applicable, as the test items are considered acceptable if their difficulty rate is between (0.20 – 0.80) (Khoshaim & Rashid, 2016, p.12), See Table (3) for speaking skills and (4) for writing skills.

Table (3)

Difficulty Level and Discriminatory Power of Speaking Skills Test

Rubric	Speaking skills										Ease coefficient	Difficulty Coefficient	Discrimination Power
	Correct Responses of High Group					Correct Responses of Low Group							
	1	2	3	4	5	1	2	3	4	5			
Fluency	4	13	18	32	30	45	33	6	4	9	0.569	0.431	0.355
Pronunciation and Accent	5	12	23	26	31	39	32	19	3	4	0.566	0.434	0.340
Vocabulary	9	8	18	30	32	43	35	10	5	4	0.559	0.441	0.363
Grammar	4	9	21	34	29	52	33	6	5	1	0.543	0.457	0.423

Table (4)

Difficulty Level and Discriminatory Power of Writing Skills Test

Rubric	Writing skills								Ease coefficient	Difficulty Coefficient	Discrimination Power
	Correct Responses of High Group				Correct Responses of Low Group						
	1	2	3	4	1	2	3	4			
Content	5	13	39	40	54	27	7	9	0.610	0.390	0.369

Organization	4	14	31	48	53	30	6	8	0.619	0.381	0.397
Vocabulary	6	17	28	46	48	41	8	0	0.595	0.405	0.397
Grammar	3	20	31	43	49	35	10	3	0.604	0.396	0.379
Mechanics	8	21	30	38	53	39	3	2	0.567	0.433	0.371

3.4.4 Reliability of Instrument

Next to validity, *reliability* is another important characteristic of evaluating results. In quantitative research, reliability refers to the consistency, stability, and repetition of results; that is, a researcher's results are regarded trustworthy if similar outcomes have been obtained in identical but different circumstances (Daniel & Frederick, 2018). The coefficient of reliability falls between 0 and 1, with perfect reliability equaling 1, and no reliability equaling 0. (Harmer, 2001; DeVellis, 2012).

There are several methods of calculating reliability such as test –retest, split- half, Kuder-Richardson and Alpha- Cronbach methods. *Cronbach's alpha* is a widely used method for assessing the internal consistency reliability of a measurement instrument, particularly when the instrument consists of multiple items or questions intended to measure the same underlying construct. It provides an estimate of how closely related the items are to each other within the instrument (Heale & Twycross, 2015; Quintão, et. al., 2020). In other hand, *Test-Retest Reliability* involves administering the same instrument to the same group of participants on two separate occasions. The scores or measurements obtained from both administrations are then compared using statistical techniques to assess the consistency of the instrument over time (Madan & Kensinger, 2017; Ustun, et. al., 2023).

However, the reliability of coping with multitasking questionnaires is estimated by using the test-retest method and Cronbach's Alpha equation, while for PSPT, Cronbach's Alpha formula is the way used for estimating its reliability.

To calculate the reliability by using test-retest method, the two questionnaires are applied on a pilot sample of (50) male and female students, with a time interval of (14) days from the first application, then the Pearson correlation coefficient was calculated between the degrees of the first and second application, as the value of stability was (0.90) for coping with multitasking questionnaire, which is a good stability coefficient.

Then, the Cronbach Alpha Coefficient was applied to the responses of the statistical analysis sample, which consist of (360) responses. After applying

the equation, the value of stability reached (0.87) for coping with multitasking questionnaires that means the value is acceptable and has a good stability coefficient. The test reliability is acceptable if it is not less than (0.5) and very good if it is more than (0.8) (Messick, 1995; Zohrabi, 2013).

For as the PSPT, Cronbach Alpha Coefficient depending on Kuder-Richardson formula is employed to ensure the reliability of PSPT which the formula is based on calculating the correlation between the internal items and dividing it into a number of parts equal to the number of its items, and each item is a partial test. Thus, the stability coefficient value for each skill is shown in the Table (5), these results are considered consistent and reliable.

Table (5)

Cronbach Alpha Coefficient for Each of the Productive Skills

Skills	Cronbach Alpha Coefficient
Writing	0.88
Speaking	0.86
Total score	0.90

4. Presentation and Discussion of Results

To determine the level of Iraqi EFL university students in CWM and their performance in productive skills, arithmetic means and standard deviation were computed. The researchers conducted a t-test on a single sample in order to assess the difference between the arithmetic and theoretical means. The results indicate that the arithmetic mean of samples' scores is (65.122) with (6.525) standard deviation. To identify the significant difference between the arithmetic mean and the theoretical one (60), results of t-test for one independent sample indicate that the difference is statistically significance at (0.05) level of significance and (359) degree of freedom, since the computed t-value (14.894) is higher than the critical t-value (1.96). Hence, the results show that Iraqi EFL university students have a good level of coping with multitasking. See Table (6) and Figure (1).

Table (6)

Arithmetic Mean, Standard Deviation, and T-Value of the Coping with Multitasking Questionnaire

Variable	Sample	Arithmetic Average	Standard Deviation	Theoretical Mean	T-Value		Significance (0.05)
					Calculated	Critical	
Coping with Multitasking	360	65.122	6.525	60	14.894	1.96	Significant

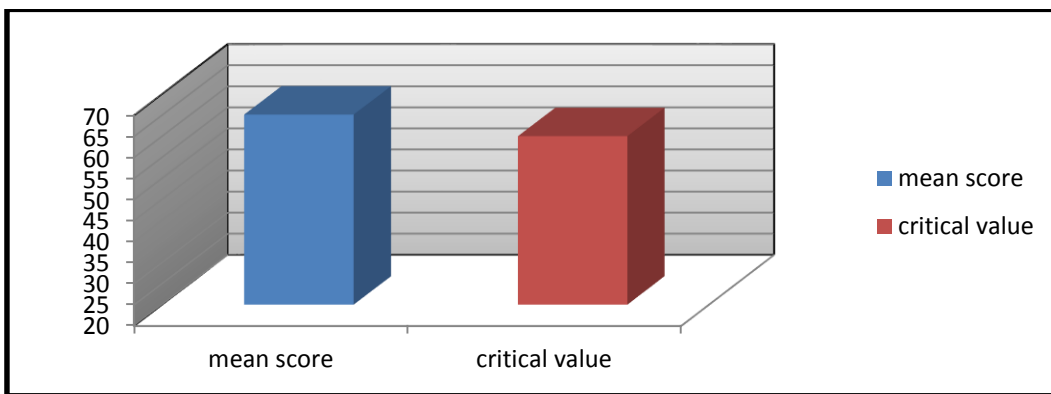


Figure (1)

Arithmetic and Theoretical Mean of the Coping with Multitasking Questionnaire

Concerning PSPT, the results show that the arithmetic mean is (30.044) with a standard deviation of (4.336). To determine the statistical significance difference between the arithmetic mean and theoretical one which is (24.5), one independent sample t-test has been employed and shows that there is a statistical significance difference at (0.05) the level of significance, since the computed T-value is (24.262), which is higher than the critical T-value of (1.96), with a degree of freedom (359). This means that Iraqi EFL University students have a good level of productive skills. See Table (7) and Figure (2).

Table (7)

Arithmetic Mean, Standard Deviation, and T-Value of Productive Skills Test

Variable	Sample	Arithmetic Average	Standard Deviation	Theoretical Mean	T-Value		Significance (0.05)
					Calculated	Critical	
Productive skills	360	30.044	4.336	24.5	24.262	1.96	Significant

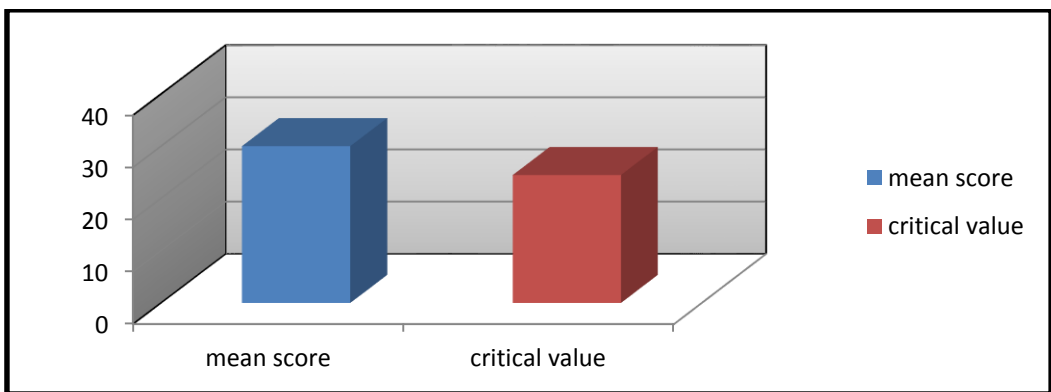


Figure (2)

Arithmetic and Theoretical Mean of Productive Skills Test

In addition to the above, the arithmetic means and standard deviation are extracted for each skill as alone (writing and speaking) of productive skills test. To found out the significance of the difference between the arithmetic mean and the theoretical one for each skill, t-test for one independent is utilized. The results are shown in the Table (8).

Table (8)*Arithmetic Mean, Standard Deviation, and T-Value of Speaking and Writing Skills*

Productive skills	Sample	Arithmetic Average	Standard Deviation	Theoretical Mean	T- test Value		Significance (0,05)
					Calculated	Critical	
Writing	360	15.669	2.679	12.5	22.442	1.96	Significant
Speaking	360	14.375	3.100	12	14.535	1.96	Significant

The above results show the following:

1. For writing skill, the arithmetic mean of the sample is (15.669), the standard deviation is (2.679), and the theoretical mean is (12.5). The calculated t-value is (22.442), which is higher than the critical value of (1.96) at the level of significance (0.05) and the (359) degree of freedom. This indicates that Iraqi EFL university students have a good level of writing skills.
2. For speaking skill, the arithmetic mean of the sample is (14.375), the standard deviation is (3.100), and the theoretical is (12). The calculated t-value (14.535) is higher than the critical value (1.96) at (0.05) level of significance (0,05) and (399) a degree of freedom. This shows that Iraqi EFL university students have a good level of speaking skills.

To achieve the second aim, Pearson correlation coefficients and t-tests for the significance of correlation have been employed to identify the correlation between coping with multitasking and productive skills. The results are illustrated in Tables (9).

Table (9)*The Correlation between CWM and Performance in Productive Skills*

Productive skills	Sample	Pearson Correlation Coefficients For coping with Multitasking	T-test Value		Significance (0.05)
			Calculated	Critical	
Writing	360	0.533	11.844	1.96	Significant
Speaking	360	0.437	9.711	1.96	Significant
otal skills	360	0.642	14.267	1.96	Significant

The above table reveals the following:

1. Concerning the correlation between CWM and writing skill, Pearson correlation coefficient and T-test formulas have been applied to find out the significance of the correlation between these two variables. Thereby, the value of the correlation coefficient between them is (0.533). Also, the computed t-value is (11.844) which is found to be higher than the critical t-value (1.96) at (0.05) level of significance and under (358) degree of freedom. This result indicates that there is a significant positive correlation between these two variables. That is, when EFL Iraqi university students CWM well, their writing skill improved.
2. Furthermore, to determine the correlation between CWM and speaking skill, Pearson correlation coefficient and T-test formulas have been utilized to estimate the significance of the correlation between these two variables. Hence, the value of the correlation coefficient between them is (0.437). As well, results show that the computed t- value is (9.711) which is higher than the critical t-value (1.96), at the degree of freedom (358) with a level of significant (0.05). This result means that the correlation between coping with multitasking and speaking skill is a statistically significant positive correlation. As a result, when EFL Iraqi university students CWM well, their speaking skill improved.
3. In addition to above result, the value of the correlation coefficient between coping with multitasking and productive skills as a whole is (0.642), and results show that coping with multitasking are statistically correlated with productive skills because the computed t-value (14,267) is higher than the critical t- value (1,96) at (0.05) level of significance and under (358) degree of freedom. This result indicates that the correlation between CWM and productive skills is a statistically significant and direct relationship.

To sum up, the null hypothesis, which assumes that there is no statistically significant relationship between the coping with multitasking and productive skills of Iraqi EFL university students, is rejected, and the alternative hypothesis is accepted, which indicates the existence of a relationship between the two variables.

5. Conclusions

1. Iraqi EFL university students have a good level of coping with multitasking.

2. Iraqi EFL university students' productive skills performance is at a good level.
3. The study findings reveal that the more level of coping with multitasking is among Iraqi EFL university students, the better their productive skills will be.
4. Iraqi EFL university students' CWM are statistically correlated with their productive skills, which indicate that CWM are positively employed by students.

6. Recommendations

1. Teach students some strategies inside class to improve coping with multitasking for getting the suitable ability to develop appropriate metacognitive for regulating thinking to face pressures in different settings.
2. Implement training courses that develop and enhance students' coping with multitasking strategies and increase their motivation and attention which can be done with various tasks and accomplishments.
3. Improve productive skills in EFL classrooms; teachers should be prepared to help students develop their productive skills by assigning more projects, tasks and exposing them to the target language.

7. Suggestions

1. Conducting a study that investigates the relationship between Iraqi EFL university students' CWM and other language skills: reading comprehension, vocabulary, grammar is suggested to be carried out.
2. Conducting a similar study on different academic stages such as secondary or post-graduate levels.

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