## The Effectiveness of an Instructional Program based on Collaborative Learning in Developing English Linguistic Competences for Secondary School Students in Taif.

Research extracted from a doctoral dissertation on curricula and methods of teaching the English language.

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## فاعلية برنامج تعليمي قائم على التعلم التعاوني في تنمية الكفايات اللغوية باللغة الإنجليزية لدى طلاب المرحلة الثانوية بالطائف.

بحث مستل من رسالة دكتوراه في مناهج وطرق تدريس اللغة الإنجليزية.

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**KEY WORDS:**
Collaborative Learning, Linguistic Competence, and the Secondary School Students.

**الكلمات المفتاحيّة:**
التعلم التشاركي المدمج، الكفايات اللغوية، طلاب المرحلة الثانوية.

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**ABSTRACT:**

The present research aimed at investigating the effectiveness of an instructional program based on collaborative learning in developing English linguistic competences (grammar and vocabulary) for secondary school students in Taif. To fulfil the purpose of the research, the quasi-experimental design was adopted (pre-test – post-test nonequivalent control group design). The participants, totaling (56), were randomly selected form the second-year students in secondary school in Taif. They were assigned into two groups: An experimental group (N= 28) and a control one (N=28). Instruments of the research consisted of: A list of linguistic competences appropriate to the second-year students at the secondary stage, a linguistic competence test, an instructional program based on the collaborative learning, a teacher's manual and a student's book. The results of the research revealed that: There was a statistically significant difference ($\alpha \leq 0.05$) between the mean scores of the control group and the experimental group in the post-administration of the linguistic competence test, in favor of the experimental group. The research recommended developing digital education platforms and supplying them with collaborative learning instruments, introducing amendments to the school schedule and statutory teaching time. In addition, the researcher suggested conducting further research into collaborative learning and linguistic competences in English as a foreign language.

**مستخلص البحث:**

هدف البحث الحالي إلى التعرف على فاعلية برنامج تعليمي قائم على التعلم التشاركي في تنمية الكفايات اللغوية (القواعد، الكلمات) باللغة الإنجليزية لدى طلاب المرحلة الثانوية في مدينة الطائف. ولتحقيق هدف البحث، تم تطبيق التصميم شبه التجريبي (تصميم المجموعة الضابطة غير المتكافئة باختبار قبلي وبعدي). وتم اختيار المشاركين عشوائيًا من طلاب السنة الثانية في المرحلة الثانوية في مدينة الطائف والتي تكونت من (٥٦) طالبًا، تم توزيعهم على مجموعتين متساويتين: مجموعة تجريبية (٢٨ طالباً) ومجموعة ضابطة (٢٨ طالباً). وتكونت أدوات الدراسة من: قائمة بالكفايات اللغوية باللغة الإنجليزية المناسبة لطلاب السنة الثانية في المرحلة الثانوية، وإختبار الكفايات اللغوية، وبرنامج تعليمي قائم على التعلم التعاوني، بالإضافة إلى دليل المعلم، وكتاب الطالب. وقد أظهرت نتائج البحث ما يلي: وجود فرق دال إحصائيًا ($\alpha \leq 0.05$) بين متوسط درجات طلاب المجموعة الضابطة وطلاب المجموعة التجريبية في التطبيق البعدي لاختبار الكفايات اللغوية، وذلك لصالح طلاب المجموعة التجريبية. وأوصى البحث بتطوير منصات التعليم الرقمي وتزويدها بأدوات التعلم التشاركي، وإدخال تعديلات على الجدول الدراسي والزمن المحدد للتدريس. وبالإضافة إلى ذلك، اقترح الباحث إجراء المزيد من البحوث المرتبطة بالتعلم التشاركي والكفايات اللغوية في اللغة الإنجليزية كلغة أجنبية.

**Introduction:**

English language has played a pivotal role in globalization and international integration, and increasingly locates itself as the common language of the modern world. Therefore, there is an increasing tendency among countries to adopt English as a common means of communication to address the world, consolidating the idea of English as the de facto lingua franca. Furthermore, demand for English language skills increases in many other areas concerned with education, research and the internet.

The prevalent global status of the English language has stimulated education systems worldwide to place the mastery of English communication skills as one of their top priorities. Saudi Arabia's education system is not an exception, as Saudi English language curriculum goals revolve around the functional use of language. The first principle of the English curriculum document, from which the goals were derived, states that teaching English aims to enable students' social interaction in various situations and contexts, and communicate their ideas. Ellis (1996, 74) proposed that learning a foreign language should help students communicate and develop what Hymes (1972) referred to as communicative competence. Therefore, Students' ability to communicate effectively in English arguably refers to their level of communicative competence.

On the other hand, communicative competence became popular after the emergence of the communicative approach in the 1960s and 70s. It has obtained growing significance and has become the primary goal of 21st century language learning

programs (Eaton, 2010 and Savignon, 2018). The utilization of communicative competence formed a revolution in teaching language, as it emerged against the traditional four-skill model (separated teaching of language skills) and audio-lingual methodology (Savignon, 2018, 4). Hymes (1972) views language as a social behavior and, hence, any successful communication requires more than linguistic competence. Based on Hymes's perspective, various models and components of communicative competences were proposed. Among the most critical components in these models is the linguistic competence (Bachman & Palmer, 1996; Council of Europe [Common European Framework], 2018; and Purpura, 2004).

Linguistic competence encompasses students' knowledge of a language and their ability to utilize different resources to produce well-structured sentences (Council of Europe, 2018, 22). Furthermore, this competence is concerned with correct language usage and the speaker's capacity to manipulate utterances' literal meanings. Thus, it covers various language components regardless of their sociolinguistic appropriateness and communicative functions (Council of Europe, 2018, 13). More specifically, it includes the learner's mastery of phonology, morphology, lexical items and syntax (Brown, 2014, 247). Indeed, linguistic competence has long been the target of language learning, as it was viewed as equal to language proficiency. However, since the emergence of communicative competence, linguistic competence has not been seen anymore to be enough in real-life communication. Instead, it was entirely subsumed as only

one part of speaker's overall language ability along with other main communicative competences, such as pragmatic competence (Saville-Troike, 2003).

Similarly, communicative competence models suggest that speakers' overall ability to sustain successful communication goes well beyond one competence, but at another's expense. Therefore, for language learners, the correct linguistic forms and contextually appropriate use are both of equal importance. In other words, even if a learner of a foreign language develops a reasonable mastery of grammar, including phonology, semantics and syntax, they might fail to carry out a successful social interaction due to their undeveloped pragmatic competence, and vise-versa. There seems to be no chance for developing learners' overall language competence without enhancing their linguistic competence in tandem with pragmatic competence in a language environment supportive of communication. Therefore, developing these competences generally requires learners to be engaged in social interaction and communication in language classrooms.

Despite the significance of linguistic competence as an essential language learning component, Saudi students in secondary schools exhibit low language proficiency even after years of implementing the English Language Development Project (ELDP) in (2008), which was designed to improve students' English language skills and develop their ability to communicate effectively in English. Several studies conducted in Saudi Arabia reported a lack of English communicative competence, especially the linguistic one, among Saudi

students (Al-Hazmi, 2017; Al Khateeb & Almujaiwel, 2018; Elyas & AlGrigri, 2014; & Shah et al., 2013). These studies attributed such deficiency to several reasons, such as the traditional teacher-led instruction, the lack of effective integration of technology, and the limited opportunities for English practice. Similarly, Al-Seghayer's (2015) recent synthesis study revealed that traditional teaching methods, like the grammar-translation method, are still dominant in English classrooms in Saudi Arabia. The study also revealed that language skills are taught discretely, leading to students' failure to develop communicative competence in the English language.

Therefore, the present research investigates the effectiveness of an instructional program based on collaborative learning in developing English linguistic competence (grammar and vocabulary) for the secondary school students.

**Questions of the Study:**

The problem of the present research could be formulated in the following main question:

What is the effectiveness of an instructional program based on collaborative learning in developing English linguistic competence (grammar and vocabulary) for the secondary school students in Taif?

**Research Hypotheses:**

The present research tested the following two hypotheses:

1-There was no a statistically significant difference ($\alpha \leq 0.05$) between the mean scores of the control group and the experimental group that studied via an instructional program based on the

collaborative learning in the post-administration of the linguistic competence test.

2-There was no a statistically significant difference (α ≤ 0.05) between the mean scores of the experimental group students that studied via an instructional program based on the collaborative learning in the pre- and post-administration of the linguistic competence test.

## Research Purpose:

The present research aimed at identifying the effectiveness of an instructional program based on collaborative learning in developing English linguistic competences (grammar and vocabulary) for secondary school students in Taif.

## Significance of the Research:

Significance of this research appears in extending our understanding of the variables affecting students' English language proficiency beyond the traditional focus on language skills. Also, this research offers an opportunity to explore what is required to help students use language for communication by extending the focus beyond morpho-syntax to include sociocultural aspects of language use.

## Definition of Terms:

-The researcher defined the main terms in this research operationally as follows:

-Collaborative Learning: is operationally defined as a set of strategies and methods that employ online tools and face-to-face techniques to trigger meaningful interactions among students. Students work in groups on linguistic language activities and exert coordinated efforts to meet shared goals under teachers' supervision.

-Program based on Collaborative Learning: It is a program that is based on a set of activities, aids, techniques and means of evaluation designed and organized to allow face-to-face and online social interaction between students to develop the appropriate English linguistic competence for the second-year students at the secondary school in Taif.

-Linguistic Competence: is operationally defined as a set of the appropriate linguistic competences for the second-year students at the secondary school, which enables them to correctly produce and comprehend grammar and vocabulary in specific communicative situations. It is measured by the score the students obtained on the linguistic test constructed for the study.

## Literature Review:

## Linguistic Competence Definition:

Since Hymes (1972) introduced the concept of communicative competence, many linguists have shifted from viewing competence as abstract knowledge distinct from performance. Hymes defined competence as "a person's capabilities based on both tacit knowledge and ability for use" (p. 14), a view that has been widely accepted among researchers. Most definitions of communicative competence recognize that it involves both knowledge and the ability to perform effective communication (Bachman & Palmer, 1996; Council of Europe, 2018). The European Commission (2021) defines competence as "the proven ability to use knowledge and skills."

The current study draws on communicative competence frameworks, which view linguistic competence as one component of overall communicative

competence. For instance, Canale and Swain (1980, p. 31) described linguistic competence as the knowledge of lexical items and grammatical rules. Bachman and Palmer (1996, p. 74) also defined it as part of a speaker's organizational knowledge responsible for producing and comprehending grammatically correct utterances. Similarly, Celce-Murcia et al. (1995, pp. 16-17) emphasized the interactive nature of communicative competence and its overlapping components.

The Centre for Canadian Language Benchmarks (Pawlikowska-Smith, 2002, p. 10; 2013, p. 81) operationalized linguistic competence as knowledge of grammar, vocabulary, and pronunciation. The CEFR (Council of Europe, 2018) also defined linguistic competence as "knowledge and skills of language" independent of sociolinguistic or pragmatic aspects. CEFR classifies linguistic competence into three main components: morpho-syntactic and vocabulary range, grammatical accuracy and vocabulary control, and phonological and orthographic control (pp. 130-137). These frameworks agree that linguistic competence is crucial for language ability but reject the idea that it solely defines overall language proficiency.

Therefore, based on communicative competence frameworks, linguistic competence should ultimately be viewed as an integral part of the speaker's linguistic repertoire and a constitutive component of communicative competence. Linguistic competence is the knowledge and ability of a language learner to correctly produce and comprehend grammar, vocabulary and phonology elements in any communicative situation.

**Technologies for Linguistic Competence Instruction**:

The rapid growth of technology has provided vast resources for language learning, enabling both collaborative and independent discovery learning through various websites and electronic applications. This has made explicit and implicit grammar and vocabulary learning accessible anytime and from anywhere.

The use of technology in second language grammar teaching dates back to the 1960s, initially through Computer-assisted language learning (CALL), which was influenced by structural language theory and focused on explicit grammar instruction (Heift & Vyatkina, 2017, p. 27). However, with technological advancements and the influence of interactionist and sociocultural approaches in Second Language Acquisition (SLA), grammar learning with technology has shifted to focus on learner interaction with technology and peers. Heift and Vyatkina (2017, p.27) categorize four types of grammar-teaching technologies:

**1-Tutorial CALL**: Early computers functioned as tutors, using a deductive approach to grammar instruction. Tutorial CALL provides detailed explanations of grammatical topics and emphasizes practice with graded tasks. It evaluates learner responses and adjusts content based on the outcomes.

**2-Intelligent Computer-Assisted Language Learning (ICALL)**: ICALL uses Natural Language Processing (NLP) to track learner input, provide feedback, and address unanticipated grammar errors. Unlike tutorial CALL, it can deliver more personalized and relevant feedback.

**3-Corpora and Data-driven Learning**: This technology uses large electronic text

collections for language learning. It creates teaching resources, such as grammars and textbooks, based on real-world language examples. Learners engage in independent pattern-hunting and pattern-defining activities.

**4-Computer-mediated communication (CMC)**: Introduced in the 1990s, CMC includes asynchronous (ACMC) email and synchronous (SCMC) chat for language instruction. Influenced by interactionist and sociocultural theories, CMC views language learning as a socially situated, goal-directed activity mediated by culturally embedded tools (Chapelle & Sauro, 2017, p.8).

In the context of vocabulary acquisition, technology has also opened numerous possibilities. Vocabulary learning technologies are classified into two types: lexical tools and lexical applications (Heift & Vyatkina, 2017, p. 51).

**1-Lexical tools**: These include e-dictionaries, open online resources, and lexical concordances, which can be used independently or in combination with lexical applications.

**2-Lexical applications**: These are divided into four categories:

o **Technology-mediated Incidental Learning**: Implicit vocabulary learning occurs when students check unknown words via e-glosses, hyperlinks, or e-dictionaries while reading or listening to online texts.

o **Technology-mediated Communication-based Lexical Learning**: This focuses on practicing previously learned vocabulary through social communication tools like WhatsApp or WeChat, facilitating interactions in written or spoken language.

o **E-vocabulary lists/flashcards/exercises**: These exercises focus on form and meaning, drawing attention to vocabulary to help store it in long-term memory.

o **Dedicated lexical applications**: These applications mix tutor and tool functions, allowing for both implicit and explicit vocabulary learning, as well as rehearsal and consolidation.

**Collaborative Learning:**

Collaborative learning is seen as an alternative to traditional, teacher-centered methods. Unlike competitive learning, where students work against each other, collaboration maximizes learning through group work, interaction, and positive interdependence. This socially oriented approach challenges the individualistic conception of learning.

Historically, collaborative learning traces back to the work of George Jardine, a Scottish philosopher who pioneered peer review methods in the late 18th century (Zimmerman, 1999, p. 989). However, modern collaborative learning is grounded in psychological and educational theories from the 20th and 21st centuries. Influential figures such as John Dewey, Jean Piaget, and Lev S. Vygotsky laid the foundation for this theory (Goodsell, 1992, p. 51).

Dewey, a key figure in collaborative learning, emphasized the social nature of learning, believing that education should foster social consciousness and that learning is valuable in a social context (Roblyer & Doering, 2013, p. 55). His advocacy for problem-centered teaching and collaboration helped shape modern pedagogies (Zimmerman, 1999, p. 990).

Piaget contributed to this field with his theory of cognitive development, which involves learning through social interaction

and personal experiences. He introduced the concept of *disequilibrium* to describe the cognitive tension that drives learning through peer interaction (Fawcett & Garton, 2005, p. 159).

Vygotsky's social constructivist theory also underpins collaborative learning. He argued that knowledge is constructed through social interaction, and he introduced the concept of the *zone of proximal development* (ZPD), where learning is enhanced through guidance from teachers or peers (Vygotsky, 1978, p. 86). His belief that knowledge is a societal product shaped modern collaborative learning.

Collaborative learning aligns with constructivism, which posits that people build knowledge through experiences and reflection (Harasim, 2017, p. 69). In a collaborative classroom, students work together, exchanging ideas and constructing knowledge through discussion (Fischer et al., 2007).

However, simply organizing students into groups doesn't guarantee a collaborative environment. True collaboration requires symmetry in knowledge, status, and goals, interactive participation, and negotiability, where open discussion ensures no single individual controls decisions (Dillenbourg, 1999, p. 10).

Johnson and Johnson (2005, p. 285) identified five key elements for effective collaborative learning:

**1-Positive Interdependence**: Mutual responsibility and shared resources drive the group towards common goals.

**2-Individual Accountability**: Individual assessments alongside group work ensure personal responsibility and feedback.

**3-Promotive Interaction**: Group members facilitate each other's learning in a supportive, low-stress environment.

**4-Interpersonal and Small Group Skills**: Successful collaboration depends on students' abilities to communicate effectively and work together.

**5-Group Processing**: Reflecting on group performance helps members contribute effectively and work towards collective success.

To foster a collaborative learning environment, students must be explicitly taught skills such as communication, conflict resolution, and decision-making (Lai, 2011, p. 42). Techniques like providing detailed explanations and asking direct questions can further enhance interactive productivity (Lai, 2011, p. 43).

**Previous Studies:**

Many studies have examined the effect of different interventions on developing linguistic competence. Some of these studies used the term grammatical competence instead of linguistic competence. However, regardless of the term used linguistic or grammatical, most of the existing studies focused exclusively on grammar in assessing students' linguistic competence.

Quines (2017) study sought to identify the effectiveness of cooperative learning strategies in developing college students' linguistic competence. The research selected 105 students enrolled in English 12-Grammar and Composition 2 in Jubail Industrial College as the study sample and distributed them into two groups, 53 students in the experimental group and 52 students in the control group. This study used the pseudo-experimental method using the repeated measures design. The results of the study revealed that cooperative learning had a higher mean gain score as compared to the lecture-discussion method.

Hasan and Ibraheem (2018) conducted a study to investigate the effect of employing Interactive Whiteboard in teaching grammar on developing Iraqi EFL learners" grammatical competence. The sample of the study involved 83 students and distributed into two groups (experimental and control). The experimental group consisted of 42 students whereas the control group consisted of 41. The results obtained from the pre-test and post-test indicated that there was a statistically significant difference between the two groups in favor of the experimental one in the grammatical competence.

Ta'amneh and Al-Ghazo (2018) conducted a study to investigate the effect of the Brown episodic model on developing Saudi EFL students' vocabulary and grammatical competence. To achieve the study's purpose, the researchers prepared a grammar and vocabulary test used as pretest and posttests. The study sample was purposefully chosen and consisted of 60 male EFL Saudi students studying Islamic studies at the college of Taymaa. The study participants were assigned evenly into two groups (the control and experimental group). The study results revealed that students' scores in the experimental group's post-test were higher than those in the control group.

Tsutada(2019) conducted a study to investigate the effects of grammar training for one semester on grammatical competence development and the influence of their enhanced competence on criticality in writing. The study sample consisted of 160 participants, including 153 first- and second-year students and seven students in their third and fourth years. The grammatical and critical writing test pre-and post-tests demonstrated that grammatical competence increased after grammatical training, despite varied results according to the specific measures

Valizadeh and Soltanpour (2020) conducted an experimental study using a pretest-intervention-posttest design to explore the effect of semi-flipped instruction on the grammatical competence and writing skill of basic learners of English in Iran. The participants were 53 Iranian university students assigned to two groups: 27 learners in the flipped and 26 learners in the non-flipped. Each group received ten sessions of intervention. The results showed that the flipped group significantly outperformed the non-flipped one in grammatical competence and paragraph writing skills.

**Research Instruments:**

To accomplish the purpose of the research, the researcher developed and used the following two instruments:

1- A list of linguistic competences appropriate to the second-year students at the secondary stage to be integrated in the instructional program of the research. This list was designed in the light of related studies and English secondary school Mega Goal 2 books (teacher and student) and the curriculum document of English language in Saudi Arabia. The list was submitted to a jury of professors and English language supervisors and teachers in the field of TEFL (N= 18). The jury members examined the validity of the sub-linguistic competences' list. After analyzing the jury responses, the sub-linguistic competences that had the highest percentage, were agreed upon at least 80% or more by jury members were selected.

2- A Linguistic Competence Test. The researchers developed a multiple-choice test based on the linguistic competence list and aligned it with the linguistic competence

targeted in the first three units of (MegaGoal 2) Student Book. The test consisted of 36 items to assess grammar (17 items) and vocabulary (19 items). To measure test content validity, the test was submitted to a jury of professors and English language supervisors and teachers in the field of TEFL (N= 18) to judge the test questions. The jury members examined the validity of the linguistic competence test. After analyzing the jury responses to the questions of the test that had the highest percentage, they agreed upon at least 80% or more by jury members' selection in the final version of the test.

For measuring the test reliability, the researcher administered the test to a sample of students other than the participants of the study (N=28). Those students were randomly chosen from the second year of a secondary school in Taif. The purpose of piloting the test was to find out whether any item was difficult or unclear, whether the instructions of the test were clear and sufficient as well as how much time is recommended for students to complete the test. Most difficult or confusing items that most students did not attempt were modified to ensure simplicity and clarity. Reliability coefficient was calculated using Alpha-Cronbach formula. The results of the analysis showed that the the value of the reliability coefficient of grammar and vocabulary and the whole test of linguistic competence was (0.80, 0.82 and 0.90), respectively, referring that the test was highly reliable and ready to be administered to the research participants.

**Methods and Procedures:**

**Design and Treatment Material:**

The present research adopted the quasi-experimental design (pre-test - post-test control group design) to investigate the effectiveness of an instructional program based on collaborative learning in developing English linguistic competence (grammar and vocabulary) for the secondary school students in Taif. The treatment material of the present research included the following:

1- An instructional program based on collaborative learning that has been developed to meet the aim of the research. The experimental group students were taught using the program for three weeks (12 classes) and encompassed three units of student English book level 2 of the secondary stage. Each class had its own objectives, time, materials, and procedures. Therefore, an elaborated discussion of the appropriate curriculum components (what to be taught) and the teaching procedures (how to be taught) was laid out and then evaluated by an expert's panel to ensure its relevance to the sample and variables of the study. The program was submitted to a jury of EFL professors and staff members (N=8) to determine its validity. All suggestions and recommendations of the jury members were put into consideration during modifying the program that helped the researcher in administering the program.

2- The teacher's manual and the student's book provided the appropriate curriculum components (what to be taught) and the teaching procedures (how to be taught) for optimal execution of the instructional program. In addition, the teacher manual offered an overview of the instructional program and detailed lesson-by-lesson teaching procedures. It is a practical guide to help the teacher promote students' collaboration and enhance the efficiency of technology use in a blended learning environment.

3- The student's book has multiple tasks and

activities organized to guide students through collaborative learning to fulfill the instructional program aim. In addition, the student's book was designed in light of the content and objectives of the English language book in the second level of secondary school to be appropriate to students' educational levels.

The teacher's manual and the student's book were handed to a panel of experts to judge their contents and suggest any modification. All suggestions and recommendations of the jury members were put into consideration during modifying the teacher's manual and the student's book that helped the researchers in administering them.

**Research Participants:**

The current research participants were (56) students, were randomly selected form the second-year male students at Imam Malek Secondary School in Taif in Saudi Arabia Kingdom. They were randomly selected and assigned into two equal groups, namely an experimental group (28 students) that studied via an instructional program based on the collaborative learning and a control one (28 students) that studied via the traditional method.

**Research Procedures:**

After extensive reading of the related literature and developing the study instruments, the study procedures began. Letters of consent necessary to apply the instruments of the research's sample were obtained (a letter from the Faculty of Education at Umm Al-Qura University to Taif education administration, and another letter to the assigned secondary school). Two intact classrooms at Imam Malek Secondary School in Taif were assigned randomly as control and experimental groups. The researcher met with the school's principal and the English language teacher to discuss the research's aim, instruments, timetable, and procedures of the research.

After completing the implementation of the treatment material, the the linguistic competence test was administered for both the two groups. Responses of the research groups were assessed and statistically analysed versus their scores in the pre-test to explore the effectiveness of an instructional program based on collaborative learning in developing English linguistic competences (grammar and vocabulary) for the secondary school students in Taif in Saudi Arabia Kingdom. The attained data were analysed statistically. The results are then briefly highlighted with discussion of the findings obtained in the research.

**Research Results:**

The research question was used as a guide to highlight the data analysis, the descriptive and inferential statistics, and explanations of the yielded results.

To answer the research question, the subsequent hypotheses were posed:

**Hypothesis (1):**

1- There was no a statistically significant difference ($\alpha \leq 0.05$) between the mean scores of the control group and the experimental group that studied via an instructional program based on the collaborative learning in the post-administration of the linguistic competence test.

For the above hypothesis, the independent samples *t*-test was conducted to test the significant difference between the mean scores of the experimental group and the control group in the post-test of linguistic competence. Table (1): Shows the results of the independent samples *t*-test.

**Table 1**

*The Independent Samples T-test for the Initial Difference between Post-test Means of EG & CG in linguistic competence test*

| Test | Group | No | Mean | S.D | Df | T value | Sig |
|------|-------|-----|------|-----|-----|---------|-----|
| Grammar | Experimental | 28 | 14.04 | 1.45 | 54 | 7.70 | 0.000 |
| | Control | 28 | 8.96 | 3.16 | | | |
| Vocabulary | Experimental | 28 | 13.34 | 2.35 | 54 | 3.42 | 0.001 |
| | Control | 28 | 10.30 | 4.06 | | | |
| Whole Test | Experimental | 28 | 27.38 | 2.50 | 54 | 6.09 | 0.000 |
| | Control | 28 | 19.27 | 6.59 | | | |

As shown in Table (1), the obtained *t*-value for the mean scores of the experimental group and the control group in the post-test of grammar, vocabulary, and the whole test of linguistic competence is significant at the 0.05 level. Thus, the null hypothesis is rejected as there are significant differences between the experimental and control groups' mean scores in the post-test of linguistic competence in favor of the experimental group.

Furthermore, the results in table (1) also indicated that the mean scores of the experimental group in the post-test are significantly higher than the control group, meaning that the experimental group exhibited a higher level of linguistic competence.

The graph below shows the differences between the mean scores of the experimental group and control group in the post-test of grammar, vocabulary, and the overall test of linguistic competence.
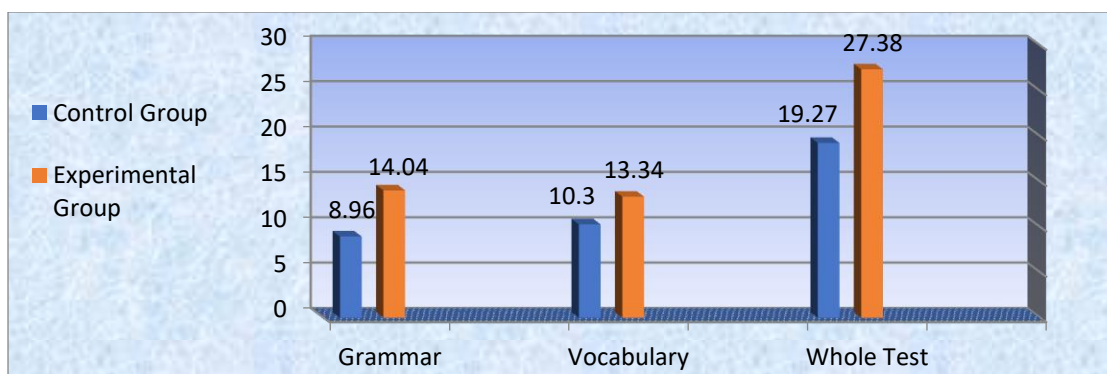


**Figure 1:** *The post-test mean scores of EG and CG on grammar, vocabulary and whole test of linguistic competence*

The Eta squared equation was also used to determine the effect size of the instructional program based on collaborative blended learning on linguistic competence (grammar, vocabulary). It is indicated that the effect size is simple if the computed

value is equal to or less than (0.01), moderate if the computed value is equal to or higher than (0.06), and large if the computed value equal to or higher than (0.14). (Field, 2009, p. 91). The details are given in table (2).

**Table 2**

*Effect Size of Instructional Program Based on Collaborative Blended Learning on Linguistic Competence*

| Test | T Value | df | Effect Size | Interpretation |
|------|---------|----|-----------|----------------|
| Grammar | 7.70 | 54 | 0.52 | large |
| Vocabulary | 3.42 | 54 | 0.17 | large |
| Whole Test | 6.09 | 54 | 0.40 | large |

As shown in table (2), the effect size values ranged from 0.17 to 0.52, higher than (0.14). Hence, the instructional program based on collaborative blended learning had a large positive effect size on grammar competence, vocabulary competence, and students' overall linguistic competence.

**Hypothesis (2)**

2- There was no statistically significant difference ($\alpha \leq 0.05$) between the mean scores of the experimental group that studied via an instructional program based on the collaborative learning in the pre- and post-administration of the linguistic competence test.

For the above hypothesis, the paired samples t-test was used to test the significant differences between the mean scores of the experimental group in the pre-and post-tests of linguistic competence. The details are given in the table below.

**Table 3**

*The Paired Samples T-test for the Initial Difference between Pre and Post-test Means of EG in Linguistic Competence Test*

| Test | Application | No | Mean | S.D | Df | T value | Sig |
|------|-------------|-----|------|-----|-----|---------|-----|
| Grammar | Pre-test | 28 | 4.25 | 1.35 | 27 | 24.90 | 0.000 |
|  | Post-test | 28 | 14.04 | 1.45 |  |  |  |
| Vocabulary | Pre-test | 28 | 4.10 | 1.87 | 27 | 17.96 | 0.000 |
|  | Post-test | 28 | 13.34 | 2.35 |  |  |  |
| **Whole Test** | Pre-test | 28 | 8.35 | 2.80 | 27 | 27.66 | 0.000 |
|  | Post-test | 28 | 27.38 | 2.50 |  |  |  |

As shown in table (3), the obtained *t*-value for mean scores of the experimental group in the pre-test and post-test of linguistic competence (grammar and vocabulary) is significant at 0.05 level. So, the null hypothesis is rejected as there was a significant difference between the two means scores of the experimental group in the pre-test and post-test of the linguistic competence. Furthermore, the data analysis showed that the mean scores of the experimental group were significantly higher in the post-test compared to theirs in the pre-test.

The graph below shows the differences between the mean scores of the experimental group in the pre-test and post-test of grammar, vocabulary, and the whole test of linguistic competence.
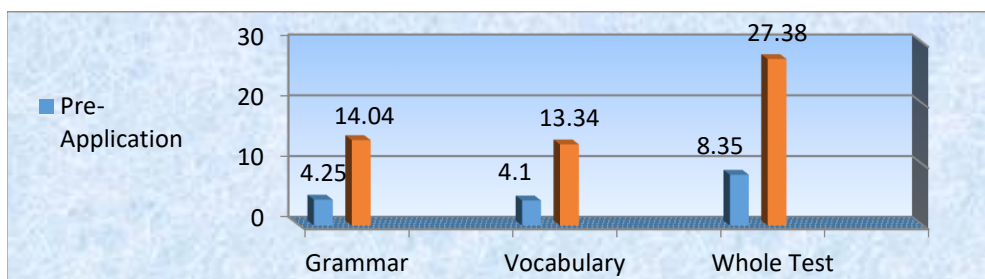


**Figure2:** *The pre and post-test mean scores of EG on grammar, vocabulary and whole test of linguistic competence*

To measure the effectiveness of the instructional program based on collaborative Learning on English linguistic competence, Blake's' modified gain ratio was used through computing mean scores

of pre and post-test of grammar, vocabulary and whole test of linguistic competence. Blake determines the standard value of effectiveness of the independent variable at (1.20) (Blake, 1966). The details are given in the table below.

**Table 4**

*Effectiveness of the Instructional Program Based on Collaborative Blended Learning on English Linguistic Competence*

| Test | Pre-Mean Scores | Post-Mean Scores | Score | Blake Value |
|------|-----------------|------------------|-------|-------------|
| **Grammar** | 4.25 | 14.04 | 17 | 1.34 |
| **Vocabulary** | 4.10 | 13.34 | 17 | 1.26 |
| **Whole Test** | 8.35 | 27.38 | 34 | 1.30 |

The computed values of Blake's modified gain ratio of pre-test and post-test of grammar, vocabulary, and the whole test of linguistic competence were 1.34, 1.26 and 1.30, respectively, which are higher than the standard value at (1.20). These results reveal the effectiveness of the instructional program based on collaborative learning in developing students' English linguistic competence.

**Discussion of the study results:**

The first hypothesis test results revealed a statistically significant difference ($\alpha \leq 0.05$) between the mean scores of the control group and the experimental group in the post-application of the linguistic competence test, in favor of the experimental group. This test result is attributed to the instructional program based on collaborative learning, which positively affected students' linguistic competence among the experimental group students.

The instructional program provided a rich environment for both knowledge building and language practice. It assisted students in reaching a deeper understanding of grammar and vocabulary by engaging them in a circle of activities ranging from individual to group learning.

Individually, students started to first set their goals and activate their prior knowledge regarding the new grammar and vocabulary items, which helped them build initial knowledge and qualified them to be in a better position for group work. This initial individual knowledge was subject to further examination by exchanging views and discussions with group members to build shared knowledge about the linguistic points in the lesson. Students also double-checked their understanding by comparing their group outcomes with other classroom groups and reflecting on the feedback from the teacher to consolidate their understanding.

The program's technological environment also allowed students to consult other sources on the web to complement their linguistic knowledge and fill in their knowledge gaps through further examples, pictures and explanations available on the Internet, along with the discussion of their peers' posts on (a Padlet Wall Space). In addition, students publishing their work on the Internet developed a sense of ownership, making them more engaged in their learning and more interested in understanding the language to improve the quality of their answers.

This finding is compatible with the results gathered by Quines (2017) and Ta'amneh and Al-Ghazo (2018) in their assurance of the positive effect of group work and social learning discourse on students' linguistic competence. Likewise, the result supports the studies of Hasan and Ibraheem (2018), Nguyen, (2017) and Valizadeh and Soltanpour (2020), which revealed that technology use puts students in a more advantageous position to improve their linguistic competence.

Regarding the second hypothesis, the test results revealed a statistically significant difference ($\alpha \leq 0.05$) between the mean scores of the experimental group in the pre- and post-application of the linguistic competence test, in favor of the post-test. The test findings are attributed to the instructional program based on collaborative learning, which indicated the effectiveness of the instructional program on the development of linguistic competence.

The program's interstitial space between face-to-face and online learning allowed for intensive collaboration and extended interaction beyond the traditional boundaries of space and time. The program offered students the opportunity to negotiate and share meanings to solve problems. Students verbalized their understanding of linguistic points in such an environment and had opportunities to compare thoughts with their partners or groups before sharing them with the whole class. Therefore, students built progressively stronger understandings supported by scaffolding, thinking aloud, reflection and unlimited cooperation opportunities (face-to-face and online) (Hashey & Connors, 2003). Furthermore, students were able to engage in a reciprocal learning process where they brainstorm, generate, organize and reconstruct ideas and information to enhance their understanding of and ability to use the new linguistic points. Collaborative problem-solving dialogues

helped students cope with linguistic difficulties (Swain, 2005, p.30).

The instructional program helped students achieve meaningful learning by consolidating the new linguistic points with their prior background to construct new knowledge with the help of modern information and communication technology. The current study aligns with Jonassen et al. (2003, p.15), who emphasized that meaningful learning occurs within 'knowledge construction, conversation, articulation, collaboration, and reflection' (p. 15). Therefore, this is also in line with the studies that found a strong correlation between collaboration and meaningful learning (Marjan et al., 2012; Morales & Navia, 2017).

The availability of online and offline learning resources and synchronous and asynchronous collaborative opportunities provided students with a secure, motivating and low-stress learning environment. In addition, the teacher's role as a moderator and representative of the knowledge community helped unlock the potential of the collaborative blended learning environment and amplified knowledge mobilization and language use. As a result, there were extended opportunities and motivation for communication and constructive learning. Thus, the test results align with Garrison and Vaughan (2011) and Monteiro and Morrison's (2014) studies, which revealed that collaborative learning increased motivation and improved students' autonomy and ability to carry out individual and shared tasks, along with their commitment to self-learning. In addition, the results of So and Brush's study (2008, p.318) revealed that students who engaged in a high level of collaborative learning were more satisfied with their online activities than those who have a low level of collaborative learning.

**Conclusions:**

Based upon the results obtained, the following conclusions have been reached:

1- The present research proved the effectiveness of using an instructional program based on collaborative learning in developing English linguistic competence (grammar and vocabulary) for the secondary school students.

2- There was a statistically significant difference ($\alpha \leq 0.05$) between the mean scores of the control group and the experimental group in the post-administration of the linguistic competence test, in favor of the experimental group students.

3- There was a statistically significant difference ($\alpha \leq 0.05$) between the mean scores of the experimental group that studied via an instructional program based on the collaborative learning in the pre- and post-administration of the linguistic competence test in favor of the post-administration.

**Recommendation:**

Based on the previous results and conclusions of the present research, the following recommendations seem pertinent:

1- More studies are recommended to investigate the effectiveness of other innovative collaborative learning strategies and techniques.

2- Developing and supplying of digital education platforms with collaborative learning tools to allow students to access interactive educational content and interact with their peers and teachers.

3- Linking these education platforms to a collection of sites to provide students with a variety of helpful content regarding the English language, which can be related to their course objectives for all academic levels in public education.

4- Building an evaluation system that considers both individual participation in group work and social skills on the one hand, and personal work and self-learning on the other, to promote better assessment and stimulate students' interest in collaborative work.

5-Creating the appropriate educational environment for collaborative learning via the introduction of amendments to the school schedule and statutory teaching time.

Suggestions for Further Research

In the light of the results attained, the present research proposes the following suggestions for further research:

1- Examining the effectiveness of collaborative learning on enhancing students' social skills and autonomy.

2- Investigating the applicability of proposed programs based on collaborative teaching in improving students' achievement and attitudes towards English language learning.

3- Designing other instructional training program for enhancing other language skills, arts, and competences.

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