



Exploring the Effectiveness of Teaching Adjacency Pairs via GPT for Iraqi First-Year College Students

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Abstract

The problem formulation of this study originates from the often-expressed concern that Iraqi EFL learners, specifically first-year college-level EFL learners, have found it hard to participate in natural and confident English conversations. This happens despite being formally instructed in English grammar and vocabulary; however, their ability to communicate effectively has been hampered by a lack of understanding and application of adjacency pairs, which are a key factor for conversing cohesively and smoothly. This lack of adequate interactive activities for learning EFL and a lack of adequate conversational exposure can only be remedied by a new technology that can mimic genuine conversing experiences. This study therefore aims to investigate the application of ChatGPT to effectively teach the understanding of adjacency pairs to improve fluency and confidence of EFL conversations for students. This study further intends to investigate the performance levels of the experiment before and after employing ChatGPT's instruction method and to investigate the opinion of instructors and EFL learners concerning the utilization of ChatGPT technology for promoting self-learning activities of EFL conversations at academic and non-academic levels.

Keywords: Adjacency Pairs, Artificial Intelligence, ChatGPT, Conversation skills, Formal/informal Situations, Self-learning

SECTION 1

1. Introduction

Speaking English proficiently is one of the biggest struggles that English second language speakers face. Iraqi college students may be able to grasp appropriate grammatical concepts and vocabulary quite well, but embedding fluency and confidence is a different matter altogether. This key issue can be attributed to a lack of opportunity to be exposed to communicative interactions and a lack of focus on constructs that specify the structure of conversations like adjacency pairs, which are critical for a continuous stream of communication while speaking.

In this respect, artificial intelligence applications, specifically ChatGPT, represent a new paradigm for language learning. ChatGPT enables users to compare and practice a broad range of adjacency pairs categorized by level and communicative context. This technology enables instant and contextually adequate responses that help users to acquire and build confidence to respond fluently to actual conversations. Despite the many benefits presented by this technology, few studies have explored its utilization to enhance the learning of adjacency pairs for EFL dialogue ability improvement at Iraqi universities.

Therefore, the aim of this study is to explore the effectiveness of applying ChatGPT to the instruction of adjacency pairs to improve the speaking fluency and confidence levels of first-year college students. Significantly, this study aims to assess the learning performance of the participants before and after instruction using ChatGPT and to investigate the perspectives of instructors and students on AI learning assistance for self-learning and communication. This study was conducted with an experimental pre-test/post-test design with thirty (30) first-year students at Al-Mansour University College, Baghdad. Participants for this study were carefully purposively sampled according to their equal level of ability and need for improvement of conversational abilities. Through this experiment, the performance of the thirty students was taken into account by analyzing their responses to 25 common adjacency pairs with a t-test analysis to assess changes. In order to incorporate a quantitative study with some qualitative observations for a better understanding of the ease of and difficulties and benefits of employing Chat GPT as a learning aid and educational tool supported by artificial intelligence for instructors and participants equally for further understanding of this issue and to approach a complete understanding of utilizing Chat GPT for better ESL-EFL speaking abilities through conversational activities.



SECTION 2

2. Theoretical Background and Review of Literature

2.1 Adjacency Pairs

In a conversation, participants take turns to communicate to each other; for instance, while one participant is speaking, the other participant listens to him or her at the end of his or her utterance. This pattern of turn-taking creates a concept known as **adjacency pairs** by the conversation analysts; this concept refers to the smallest unit of a conversation. A second utterance always relies on the first one; therefore, the two happen at the same time hence are known to be 'adjacent.' Lukman Isgianto (2016, p. 437) asserts that according to Sacks and Schegloff (1973), the second part of an AP's existence relies on the initial one being spoken. Examples of APs include:

- Question / Answer – Is it raining? / No, it is not.
- Offer / Acceptance – Will you have some coffee? / Sure, thanks.
- Request / Grant – May I use this chair? / Certainly.
- Complaint / Denial - Did you see my wallet? / Sorry, no idea.
- Compliment / Rejection – You won the match! / God's grace.

As summarized by Cambridge University Press (2006), adjacency pairs share three defining characteristics:

1. They are made up of two
2. The utterances are immediately successive.
3. Speakers are different for each

A tacit or belated response does not constitute an adjacency pair since continuity of speakership is a prerequisite. An adjacency pair plays a pivotal role with regard to turn-taking and organization of spoken discourse. A complex sequence may expand this pattern by means of pre- or post-expansions.

An example of an insertion sequence could be:

A: Can you come with me?

B: Now?

A: Yes, if possible.

B: Sorry; I am busy.

A Post-Expansion may happen when:

A: I'd like to take part in the competition.

B: Contact Mr. Sharma.

A: Who is that?

B: He's the coordinator.

Likewise, a pre-expansion can establish the following sequence:

A: Hey, have you heard the news?

B: No, what

A: I'm engaged.

B: That's great

Such expansions illustrate the way in which adjacency pairs are responsible for a conversational coherence that provides the spoken English with the basic structure that the current study proposes to enhance with ChatGPT for EFL learners.

2.2 ChatGPT

Recently, the emergence of artificial intelligence technology has altered the landscape of learning and conducting research all over the globe with ChatGPT at the forefront of this innovation. ChatGPT is a cutting-edge chatbot that employs Natural Language Processing technology, which facilitates a response to inputted inquiries cohesively and grammatically correct. This chatbot responds to inputs by identifying patterns of human language and then formulating texts that seem to converse like a human being.

From a linguistic point of view, ChatGPT correlates with the concept of Chomsky's Language Acquisition Device (LAD), referring to a way by which humans acquire linguistic knowledge. LAD relates to the way humans acquire linguistic knowledge with the help of which humans can generate



meaning by using algorithms. Similarly, ChatGPT uses algorithms to generate linguistic responses to non-linguistic inputs. ChatGPT can therefore be viewed as an artificial version of LAD.

ChatGPT has been upgraded with several enhancements since its development to enhance its capacity to respond to complex inputs, generate long conversations with a large number of dialogue lines, and accomplish several tasks simultaneously. This flexibility of the tool enables it to serve a wide range of applications relating to spoken as well as written communications. Notably for EFL learning and teaching contexts, ChatGPT offers EFL learners instant feedback with regard to their responses to context-related questions or prompts that may be practiced a number of times by the learner.

Ease of Use

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One of the greatest strengths of the tool lies in its user-friendliness. Learners can simply input some instructions or questions for them to receive instant responses that are contextually relevant to the situation. Through the rephrasing of the input poses by users, one can modify the responses to suit one's needs of communication. This way, EFL learners can interactively react to their learning materials for fluency purposes. Returning to Chat GPT to give a specific example, when a learner asks a question on how to console a grieving friend, a number of polite and appropriate phrases are provided by the program for the learner to choose according to the context. This serves to further stress the value of the learning AI developing a kind of communicative competence. On the whole, Chat GPT provides a remarkable platform for experiential learning of languages. This device engages active participation of users, removes fears of learning for users, and facilitates a bridge between learning at the classroom level and learning at the conversational level. This device can serve as a good learning tool for learning adjacency pairs as well as improving fluency levels of EFL users.

2.3 Challenges and Ethical Issues in ChatGPT

Although ChatGPT has been found to have unmatched potentials for learning, it should be used with a great amount of caution. This is due to the fact that the response of ChatGPT to a great extent depends upon the inputs that users give to the system while submitting their inquiries; for example, ambiguous inquiries may lead to users getting irrelevant information from the system. This means that ChatGPT may contain misinformation since the information cut-off of ChatGPT may result in some of the information being outdated. This can be a problem since ChatGPT may give grammatically correct responses that contain a huge amount of misinformation.

Over-reliance on ChatGPT may also lead to a lack of critical thinking and creativity abilities on the part of the student since overdependence on the response program may hamper a student's ability to solve problems and think rationally without reliance on the automated response system. With the availability of a system that can churn out a fair amount of text, the chances of plagiarism may go higher; hence, integrity and everything that falls into place concerning citation becomes essential. Teachers should therefore encourage their pupils to make use of ChatGPT as a supplement to learning but not a replacement for it.

2.4 Review of Related Literature

A literature study of existing works highlights not only an emerging trend of academic endeavours concerning the analysis of adjacency pairs and AI-assisted EFL learning perspectives. Rum Muhammad (2019), for instance, conducted a study at ELC Education in Makassar to prove that there are five main types of adjacency pairs: Degreeting, Greeting, Question-Refusal, Offer-Refusal, and Question-Answer. This study further demonstrated that awareness of the different types of adjacency pairs can boost confidence of listeners towards communicative performance. Khin Dandar Win (2019), on the other hand, conducted a study concerning adjacency pair analysis of Global Level 1 conversations employing the classification system by Finegan (1993), while identifying that the most common form of adjacency pair was Question-Answer with a 64% incidence rate, followed by Agreement-Disagreement and Apology-Acceptance.

Laila Qodriani and Dewa Wijana (2021) examined the concept of 'new adjacency pairs' that appeared in computer-mediated learning contexts due to the COVID-19 pandemic. Based on the SPADA Learning Management System dataset, the authors identified that the same kind of conversations continued to exist in computer-mediated communication (CMC) despite some interruptions of typing delays to the turn-taking organization. The researchers forecasted that some types of adjacency pairs



could develop at a linguistic level to fit future computer-mediated conversations. Regarding ChatGPT and EFL education, Lo et al. (2024) conducted a detailed analysis of seventy empirical studies on its educational uses. The findings showed that the main uses of ChatGPT by the pupils were for role-playing activities and writing help, while the teacher considered it to be an inspirational tool for autonomous learning activities. However, while AI can aid human instruction, it was asserted that AI cannot replace it either. On the other hand, Kucuk (2024) examined the grammar classes employing ChatGPT at Tishk International University's branch in Erbil. On the basis of his test outcome, pupils instructed with ChatGPT showed a marked improvement compared to those instructed with textbooks alone. But some of the participants expressed concern that reliance on AI may weaken their ability to think critically. Yet despite the emergence of various new studies, there has been no previous study exploring the application of ChatGPT to introduce adjacency pairs to Iraqi EFL learners. This further reveals the novelty of the current study. This study proposes to investigate the efficacy of ChatGPT to enhance conversational skills and autonomous learning abilities of Iraqi EFL learners.

SECTION 3

3. Experimental Procedure and Data Collection

This section discusses the procedures followed to achieve quantitative and qualitative results for this study. This experiment aimed to assess the impact of ChatGPT on learning adjacency pairs to improve the speaking fluency and confidence of the participants. Apart from conducting the experiment, a questionnaire survey was carried out to explore the participants' perspectives on using ChatGPT as a learning tool in AI technology to improve conversational abilities.

3.1 Research Design

The study embraced a pre-test and post-test experimental design. Purposeful sampling was conducted on thirty first-year university college students of Al-Mansour University College, Baghdad, to choose participants with similar levels of English ability who needed improvement with speaking English. This design was to test the performance difference of the participants before and after instruction with Chat GPT.

3.2 Procedure

Initially, a listing of common English expressions was introduced to the students without revealing the experiment's specific target area. This was done to get the pre-test information by recording their spontaneous utterances. Then, the students were encouraged to search for appropriate answers for 25 examples of adjacency pairs on ChatGPT introduced by the teacher. This was followed by the teacher's help to construct the questions and understand the communicative context of every pair. Experimental Procedure: A week of practice and familiarity with the responses generated by ChatGPT was followed by a practice test where the students made presentations of their preferred adjacency pairs to the class. A final post-test was then conducted where the teacher started conversations that featured the first part of each of the students' preferred adjacency pairs. Responses to the conversations started by the teacher were noted and assessed for improvement using statistics from the responses collected. t-test analysis was conducted to compare scores of differences between the pre-test and the post-test results while the questionnaires provided information for a qualitative analysis of the efficiency of ChatGPT for improving conversational skills.

3.3 Questionnaire

For the qualitative study, the following questionnaire was distributed to the students in which the students were required to respond either in the positive or negative. The percentage of the positive and negative responses was calculated.

Table 1. Table showing the responses of participants to the given statements.

Number	Statement	Positive responses	Negative responses
1	Learning with ChatGPT was simple and quick.		



2.	Question formation posed a problem.		
3.	The responses were prompt and satisfactory.		
4.	One needs initial training for using ChatGPT.		
5.	It was fun to practice adjacency pairs with AI learning partners.		

SECTION 4

4. Data Analysis and Results

4.1 Quantitative Analysis

A comparison of the results of the pre-test and the scores of 30 participants after the ChatGPT-based instruction was carried out to assess improvement in performance of the students.

Table 2. Scores of students in the pre-test and post-test (25 adjacency pairs)

Sr. No.	Pre-test	Post-test	Sr. No.	Pre-test	Post-test
1	20	22	16	13	20
2	15	18	17	20	24
3	14	14	18	15	22
4	17	20	19	12	20
5	12	16	20	14	20
6	12	14	21	9	18
7	13	19	22	11	19
8	18	23	23	16	22
9	15	21	24	12	22
10	14	22	25	13	19
11	16	20	26	14	21
12	16	23	27	10	20
13	14	24	28	16	22
14	17	20	29	12	23
15	21	21	30	14	23

4.2 Statistical Results

Group	Mean	SD	N
Pre-test	14.50	2.87	30
Post-test	20.40	2.55	30

Confidence interval:

Mean of Pre-test - Post-test = -5.90

95% confidence interval = between -7.31 and -4.49.

Statistical values: $t = 8.40$ $df = 58$ Standard error = 0.702 P (two-tailed) < 0.0001

The difference between the means of the pre-test and the post-test is statistically significant ($p < 0.001$). This shows that a marked improvement occurred with regard to performance after instruction with the help of ChatGPT. This also reveals that AI-assisted conversational learning was beneficial for the participants to accurately and fluently respond to adjacency pairs since ChatGPT was effective in improving EFL speaking skills.

4.3 Qualitative Data



In order to supplement the quantitative results, a short survey questionnaire was conducted on the same participants to gather qualitative information regarding their experiences with the Chat GPT system after completing the training. The responses collected provided insight into the attitudes of the participants concerning practicing adjacency pairs with AI systems.

Table 3. Students' responses to questionnaire statements

No.	Statement	Positive Responses	Negative Responses
1	Learning with ChatGPT was simple and quick.	15	15
2	Question formation posed a problem.	17	13
3	The responses were prompt and satisfactory.	27	03
4	One needs initial training for using ChatGPT.	25	05
5	It was fun to practice adjacency pairs with AI learning partners.	28	02

Observations Analysis of the qualitative findings indicates a positive perception of using ChatGPT for conversational learning. An equal proportion of the respondents (50%) agreed and disagreed that acquiring knowledge with ChatGPT was easy and simple; hence, half of the respondents found the tool easy to navigate, while others may have found it a bit challenging to operate. A majority of the respondents (90%) also indicated that Chat GPT was able to respond adequately to the test; however, some of them may have been confused by some of the ambiguous and error-filled grammatical inputs. A vast majority of respondents (83%) indicated that initial training was indeed needed with regard to the formulation of prompts—a prerequisite for effective communication with AI technology. Almost all participants (93%) found the activity of practicing the concept of adjacency pairs with ChatGPT to be enjoyable and a source of motivation to enhance learning while working with AI technology. This general qualitative finding lends validity to the quantitative finding that ChatGPT can prove to be a beneficial way to add to the conversational skills of EFL learners.

SECTION 5

5. Discussion, Conclusion, and Major Findings

5.1 Discussion

For the general ESL/EFL learner, the goal of communicative competence in English continues to be a daunting endeavour. Grammar knowledge and sentence formation may not necessarily guarantee the ability to communicate successfully in a communicative situation, and specifically speaking in informal settings. In informal contexts of communication, for instance, the concept of adjacency pairs gains paramount importance since it refers to pre-fabricated responses that enhance friendly and contextually appropriate communication. Since complex grammar rules need not be followed while making a response of this kind, it enables the student to concentrate on the meaning of the message and not on the structure of the sentence. Once the student feels confident in making predictable responses to a particular situation, his or her fluency level definitely improves.

5.2 Major Findings

The study produced several significant findings:

1. Comprehensive Access: ChatGPT offers a wide range of adjacency pairs; hence, it reduces the burden of lesson preparations for instructors.
2. Application: Students can access common expressions, questions, and responses that can be used for conversing on a daily basis.
3. Flexible learning: Students can easily go through the Chat GPT-generated adjacency pairs without spending a single minute on them since learning requires less effort.
4. Confidence building: Regular practice and revision of the above expressions help to build confidence of the student to speak fluently.
5. Convenient accessibility: ChatGPT can be used on various devices, including mobile phones, allowing learners to practice anytime and anywhere, provided internet access is available.



6. Autonomous learning: Students can exercise their learning of adjacency pairs without necessarily being under the teacher's continuous supervision.
7. Shortcomings: This tool's performance can be affected by the accuracy of user inputs. Any ambiguities or error-prone inputs can lead to inappropriate or dissatisfactory results.

5.3 Conclusion

In the age of advancing technology, ChatGPT can be leveraged to the full to impart English to Iraqi college-going students who have adequate knowledge of technology and are eager to enhance their speaking skills. Busy with educational and working commitments, ChatGPT becomes a convenient tool for them to access at their respective times. This study supports that there's a positive attitude held by instructors as well as participants to incorporate ChatGPT for learning English, understanding the benefit of ChatGPT to supplement existing techniques with a focus on improving speaking skills. ChatGPT's ability to act as a simulated speaking buddy contributes significantly to fill the existing hiatus between planned learning activities at school and actual communicative performance.

5.4 Suggestions and Recommendations

ChatGPT should be implemented for the instruction of adjacency pairs for college-level ESL and EFL students in Iraq. This kind of experiment can be further implemented for various levels of English learning abilities and for other English skills like listening, writing, and pragmatics to derive further benefits. Research should continue for its proper utilization in English learning.

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APPENDIX

(Prompt given on ChatGPT – List of 25 common adjacency pairs)

Common Adjacency Pairs

1. Greeting	–	Greeting
A: "Hi!" B: "Hello!"		
2. Question	–	Answer
A: "What time is it?" B: "It's 3 o'clock."		
3. Offer	–	Acceptance / Refusal
A: "Would you like some tea?" B: "Yes, please." / "No, thanks."		
4. Request	–	Grant / Refusal
A: "Can you pass the salt?" B: "Sure." / "Sorry, I can't."		
5. Invitation	–	Acceptance / Decline
A: "Want to come to my party?" B: "I'd love to!" / "Maybe next time."		
6. Apology	–	Acceptance / Rejection
A: "I'm sorry I'm late." B: "That's okay." / "You're always late!"		
7. Compliment	–	Response
A: "You look nice today." B: "Thanks!" / "Oh, really?"		
8. Complaint	–	Excuse / Apology
A: "You forgot my book." B: "Oh, sorry! I'll bring it tomorrow."		
9. Blame	–	Denial / Admission
A: "You broke it!" B: "No, I didn't!" / "Yes, I did—sorry."		
10. Thanking	–	Acknowledgement
A: "Thanks a lot." B: "You're welcome."		
11. Congratulation	–	Response
A: "Congratulations on your win!" B: "Thank you!"		
12. Leave-taking	–	Leave-taking
A: "Goodbye!" B: "See you later!"		
13. Greeting	–	Self-introduction
A: "Hello." B: "Hi, I'm Riya."		
14. Summons	–	Answer
A: "Hey, Rohan!" B: "Yeah?"		
15. Assessment	–	Agreement / Disagreement
A: "That movie was great." B: "Totally!" / "I didn't like it."		
16. Suggestion	–	Acceptance / Rejection
A: "Let's go out." B: "Okay." / "I'm busy."		
17. Offer of help	–	Acceptance / Decline
A: "Need a hand?" B: "Yes, please." / "No, I'm fine."		
18. Command	–	Compliance / Refusal
A: "Sit down." B: "Okay." / "No way!"		
19. Invitation to	speak –	Response
A: "What do you think?" B: "I agree."		
20. Warning	–	Acknowledgement
A: "Careful, that's hot!" B: "Oh, thanks!"		
21. Apology	–	Minimization
A: "Sorry about that." B: "No problem."		
22. Proposal	–	Agreement / Disagreement
A: "We should start now." B: "Good idea." / "Let's wait."		
23. Compliment	–	Denial (modesty)
A: "You're so talented!" B: "Oh, not really."		
24. Accusation	–	Denial / Admission
A: "You took my pencil." B: "No, I didn't!" / "Oops, sorry!"		
25. Invitation	–	Postponement
A: "Want to hang out today?" B: "Maybe tomorrow."		