Using Simulation in Developing the Learning of English as a Foreign Language

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Abstract

Language knowledge requires not only an understanding of its grammar and vocabulary but also the ability to communicate appropriately in an effective communicative setting. One of the activities used to allow students to practice communication skills and gain fluency inside the classroom is simulation. Simulation provides a way of creating a communicative setting in which the student actively becomes a part of the real-world system. In the 2021-2022 academic year, teachers in the academic context were able to add some activities inside the classroom that were difficult to add in online lessons that were conducted for two years.

In this study, simulation is used to improve learners" communicative abilities, including presenting facts in a grammatically accurate way to match the language used in the circumstance to create a situation that participants consider reliable. To conduct this study, the researchers used a

quantitative approach with an experimental design by involving 100 students divided into two groups: 50 students as a control group and 50 students as an experimental group. Both groups were from the 4ᵗʰ stage students majoring in English at the College of Education, Al- Farahidi University. A pre-test and a post-test were used in collecting data; the results of the tests were analyzed using SPSS, and Pearson correlation coefficient.

The results revealed that using the simulation strategy helped the students of the experimental group to develop speaking skills. These skills of body language, fluency, pronunciation, intonation, grammar, and vocabulary were used positively. Moreover, students became motivated to speak freely and confidently

Keywords: foreign language, grammar, vocabulary, practice, simulation

Introduction

One of the main tasks of university language teachers is to give students the resources and practice they need to become sufficiently fluent in their target language. Generally, language teachers in private universities in Iraq are required to manage huge classrooms and extensive curricula. However, simulation is not exclusive to language learning; today it is used ina variety of fields, including engineering, nursing, and medicine, in which a task-based activity with a real-world setting is investigated (Dhumal, 2015).

Consequently, to enhance research, simulation has become of great importance and many studies have been done previously concerning its use in language learning and instruction as well as other fields of knowledge. Lyu (2006), among pthers, focused on how simulations can help students to learn or be taught how to communicate in the target language community. The study re-examined the notions of Communicative Language Teaching (CLT) and the comprehensible understandable input from a practical standpoint by offering actual settings that enhance the chances of developing real conversation in EFL lessons. Lyu found that students can develop their communication skills by continually negotiating meanings in simulations (Lyu, 2006).

Simulation is frequently mentioned as an example of an activity that can be used to demonstrate or enhance a foreign language learner's communicative skills in the literature on the teaching of English as a foreign language. For instance, Savignon(1983) states that in simulation group(s) interaction placed the students in a fake setting depending on their "collective communication competence" (p.211).

Additionally, different activities performed in the classroom to enrich language learning are thought to share a variety of characteristics. In this term, for instance, simulations are frequently thought to involve role-playing and competition. However, a precise difference between varied activities is impossible due to the haziness of the many terminologies utilized. For instance, (Ellington et al.,1982) pointed out that games, simulations, and case studies are varying, "giving rise to various types of hybrid exercise which possess the essential characteristics of more than one class" (p.10). This example highlights how challenging it is to standardize terminology in teaching and learning (Vick, 1999).

Other terms like "game", "gaming", "role-playing", and "scenario" are also used in research on language-learning simulations to describe communicative activities for language acquisition. While some designers purposefully prefer one term to another to draw attention to specific elements of the activity, others use these terms randomly and interchangeably. This is a challenge for the teacher

who wants to choose an activity appropriate for a specific teaching situation (Hamad and Alnuzaili, 2022).

In the same vein, Suryati (2010) (cited in Siti Ruqoyah 2017) pointed out that students who received instruction using simulation techniques performed better in their speaking exams than those who received instruction without simulation techniques, with a statistically significant difference between the two classes. The use of simulation techniques is advantageous because they create authentic models for group activities that benefit students' social and personal growth. According to Brown (2001), simulation is an activity that involves complicated group and individual interactions and is based on actual events and experiences (p.135). So, too, Jones (1982) defined simulation as the actuality of function within a structured and simulated setting. According to this definition, simulations must include three key components: a structure, a simulated environment, and a simulation of a function (p. 5). The main purpose of simulations is to help participants to accept the reality of function. The participants must stop thinking of themselves as students or teachers, otherwise, the simulation will fail. In this regard, Jones (1982) states that:

Acceptance of the reality of function means that a participant who has the function of a doctor must examine the patient, communicating effectively to do the job. The role of students in simulations, therefore, is (1) taking the functional roles such as reporter, survivor, or customer as a participant, (2) stepping into the event, and (3) shaping the event, carrying out their duties and responsibilities. (p.13)

Also for Jones (1982), the simulation's structure, somehow, meets the requirement for the "conversation" class by giving students the chance to practice their language abilities and speak freely. It gives the teacher the chance to monitor how the students perform speaking spontaneously, and take note of both their grammatical mistakes and linguistic needs. Jones divided a simulation into three parts or phases:

Phase 1 is a stage for giving the participants the necessary information: the teacher briefed the students on the task by providing them with the essential information regarding language input that is related to what they will need to interact with. This will help them later to engage in information collection to master the vocabulary, lexis, structure, and roles to enable them to perform their demanding task.

Phase 2 includes group or pair discussions. In some simulations, a conversation between two "sides" consists of negotiation between groups, and each side requires time to prepare its arguments. During the activity, the teacher's role is strictly that of a controller. The controller should not interfere in any way. Because a simulation cannot be taught, the controller's role is to observe and possibly take notes while ensuring that everything goes as planned.

Phase 3 is the debriefing phase of a simulation and it is crucial to the task"s success. The instructor clarifies the task's terminology, reviews it with the class, and helps pupils strengthen their weak areas. Debriefing goes beyond simply summarizing the experience. According to Lyu (2006) (cited in Jones 1980):

for the basic level learners, the teacher may have to help them explain what they did and why by asking questions like 'What was your role? 'Where did you go? 'What did you want to do/buy/ask? 'Why did youdo that? etc. since they may not be able to explain fully in the target language. (p.11).

For teachers who teach English as a foreign language, speaking is more difficult to communicate in a foreign language than in one's native language. It is not easy to learn to speak English. Many people believe that speaking is the most difficult skill to master, following listening, writing, and reading. This is because speaking is a rather difficult skill, which requires that a speaker must consider grammar, rhythm, fluency, pronunciation, and intonation when producing an utterance. Furthermore, a speaker must consider how to deliver the message to convey the correct meaning to the audience or listener. It is an interactive activity performed by speakers that combine codes and messages. In other words, speaking is a language skill that is used to express ideas, opinions, thoughts, and feelings to others through the use of words or articulation sounds (Siti Ruqoyah, 2017, pp.17-18). According to (Celce-Murcia, 2001), speaking is a skill that is challenging to learn because when one speaks to someone, one must know how to utter, how to convey their message, and how to employ the rules of speech. Speaking is a skill utilized in daily life communication, both in t school and outside school. The ability is learned by extensive repetition; it is essentially a neuromuscular process rather than a cerebral one. It entails the ability to send and receive messages (p.125).

Levine (2004) described a global simulation design as a student-centered, task-based alternative to standard curricula for second-year university students taking foreign language courses. The author identified strengths such as the use of the content knowledge in the simulation dynamics, target language activation during the simulation phases, and collaborative work to complete the tasks and provided clear guidelines for applying simulations in language courses. In addition, Halleck and Coll-Garca (2011) taught English to engineering students using simulation-based learning. The study provided insight into participants' perspectives on how language acquisition, critical thinking, and intercultural awareness are affected by web-based simulations. Simulated experience showed to be important in an engineering curriculum since a true comprehensive engineering education should offer the opportunity to work cooperatively with other experts in an intercultural setting rather than just solving problems from a textbook.

To mention a few more features of simulation-based learning, Watts, Garca-Carbonell, and Rising (2011) (cited in Angelini and García-Carbonell 2019) evaluated each student's end-of- course portfolio [N = 26] to analyze perceptions of collaborative work in web-based simulations. All team members actively participated in the simulation, and each member's drive and sense of accomplishment demonstrated the students' high regard for the collaborative work they needed. By analyzing the results, the students claimed that they had grown more determined and had learned speech tactics to persuade others and solve difficulties. They maintained that their ability to learn from others and to listen to others' perspectives had improved as a result of the collaborative work. All of this advanced their intellectual growth and understanding. Additionally, they improved their language abilities, comprehended specific topics more quickly, and gained self-assessment experience (p.6).

Woodhouse (2011) conducted an interesting study, in which 33 Thai university students took part in a computer simulation to learn English. To find out what students thought of using simulations to learn a foreign language, information was gathered through interviews. The lack of face-to-face

interaction in the simulations did not interfere with the student‴s perception that they had gained knowledge about sociocultural factors of communication in the target language. The ability to decide, persuade, and communicate assertively increased, according to the students.

Michelson and Dupuy (2014) described a large-scale simulation that included 29 intermediate French learners from a public institution in the Southwest United States. Twelve students from the experimental group had distinct tasks in the simulation to represent the duties of locals in a Parisian commercial district. The other seventeen students, who were in the control group, did not take part in the simulation and instead learned French the conventional way. The only students that were involved in the experiment were able to explain how their responsibilities influenced particular language decisions and non-linguistic semiotic modes. The study drew attention to how simulations could help students to become more aware of both the target language and other communication codes (pp.31-32]

In short, we may safely say that speaking abilities can be developed through a variety of strategies and methods. In the past, speaking for communication was developed using the Audio Lingual Method. Due to its shortcomings, other approaches and strategies, such as communicative language teaching and community language learning that attempted to improve students' speaking abilities for communication were developed. The major concern of most teachers of the Arab world is the lack of speaking experience. There is nowhere else for students to practice speaking except in class, where most of them are unwilling to be involved in conversations either they are afraid that they might make mistakes or they think that their classmates are an embarrassment to them. Therefore, employing simulation may help language users to get rid of such feelings as fear or embarrassment and enjoy speaking tasks. Students can improve their production of words' tones and accents by using simulation. Besides the confidence the students can get through practice, simulation can also assist them in improving their speaking abilities by providing a model for practicing various types of conversations.

Methodology

The goal of this study was to determine how simulation training affected learners' capacity to speak English as a foreign language. To achieve this, 100 students majoring in English at stage 4 in the College of Education of Al-Farahidi University took part in the study. The participants were divided into two groups, each with fifty students. After a three-week course, during which both groups used the same methods of learning and had the material required for two topics, a pretest was conducted. This was followed by a comparison of the results. Following the same previous methodology, one group was taught without simulation tasks, and the other group via simulation tasks (i.e. pre-task, during-task, and post-task). Both groups completed post-tests in week seven; the results were classified and SPSS was used for analysis.

The students were taught two topics for three weeks: "First Language Acquisition" and "Second Language Acquisition/Learning". The two topics are part of the Linguistics II Course in the Fourth year curriculum, the textbook being "*The Study of Language* by George Yule". During these three weeks, the students were taught by using the traditional method besides free discussion, pair work, and group work to help them to speak after reading the topics in the book. The pre-test was given to the two groups. Then, the control group continued to study using the same method, while the experimental group was taught using a simulation strategy. The experimental group students were taught adequately how to practice reading paragraphs available on students' mobile phones, to

increase students' chances of listening, practice, and repetition. The students also practiced imitating the way a child or an adult learns a language within the stages of acquisition, trying to imitate accent and intonation using their body language. This was achieved with the help of the lecturer. Students from both groups took the same post-test in week seven. Three terms were tested on a speaking evaluation sheet that was created to assess students' speaking abilities both before and after the test. The terms were:

1- Fluency and body language

2 - Information flow and content

3- Vocabulary use, grammar, intonation, and pronunciation

The two tests' results were examined to determine the impact of simulation on the development of the English language. To determine the efficiency of employing simulation in building English language speaking skills, the post-test results for the two groups were evaluated using SPSS.

Test Reliability and Validity

Cronbach's Alpha, Spearman's, and Brown were utilized by the researchers to evaluate the test's reliability and validity.

Table (1): Results of the Test Reliability and Validity

	Cronbach's Alpha	Spearman and Brown
Reliability	0.898	0.822
Validity	0.978	0.884

As displayed in Table (1) above, the findings of the test reliability and validity demonstrate a positive sign. Tests may be performed on the study''s population based on the validity and reliability results.

The scores of the experimental and control groups are measured in the pre-test before the experiment was conducted on the sample members to demonstrate the homogeneity between the experimental group and the control group in the achievement scores of both the listening and the speaking courses. An independent sample **t**-test was used to determine whether or not there were significant differences between the two groups.

Table (2): Homogeneity between the Experimental and Control Groups' Pre-tests

Groups	Mean Score	Std. Deviation	t-value	Df	Sig. (2-tailed)	Reality of 0.05
Experimental Group	8.8300	1.93422	1.754	98	.183	insignificant
Control group	7.4300	1.52072				

Table (2) above demonstrates that the sig(2-tailed) value (.183), which is insignificant at the Alpha (.05), indicates that there is no statistically significant difference between the experimental and control groups. This is due to the homogeneity between the two groups.

The researchers used a **t**-test to determine the average of the two independent groups' fluency and body language results.

Table (3): The Results of Experimental and Control Groups Differences in terms of Fluency and Body Language

Group statistics						
Groups	Mean Score	Std. Deviation	t-value	Df	Sig. (2-tailed)	Reality of 0.05
Experimental Group	3.8100	.67399	3.431	98	.021	significant
Control group	3.2300	.70612				

Table (3) above shows the calculated **t**-value is (3.431) with a degree of freedom (98) and a probability value (.021), indicating that there is a statistically significant difference between using the simulation strategy and the conventional strategy on students' achievement in speaking skills in terms of fluency and body language. The experimental group who learned by employing the simulation technique at a level of (0.05) achieved positive results.

After applying the simulation technique, the researchers used a statistical analysis **t**-test to find out the difference(s) between the two independent groups' achievement in speaking skills in terms of information flow and content and to determine the average between the two groups.

Table (4): Results of Experimental Group and Control Group Differences in terms of Information flow and Content

Group statistics						
Groups	Mean Score	Std. Deviation	t-value	Df	Sig. (2-tailed)	Reality of 0.05
Experimental Group	4.7500	.60078	1.923	98	.187	insignificant
Control group	4.2250	.71104				

Table (4) above reveals that the **t**-value is (1.923) with a degree of freedom (98) and a probability value (.187), which means that the results are statistically insignificant at the reality level of (0.05). Therefore, there are no observable differences between employing the simulation strategy and the standard strategy on students' speaking abilities in terms of information flow and content.

After employing both the simulation technique and the standard technique, the researchers analyze the two independent groups' speaking abilities achievement in terms of vocabulary use, grammar, intonation, and pronunciation. The two independent groups' averages will be calculated through a **t**-test analysis.

Table (5): Results of Experimental and Control Groups Differences in terms of VocabularyUse, Grammar, Intonation, and Pronunciation

Group statistics						
Groups	Mean Score	Std. Deviation	t-value	Df	Sig. (2-tailed)	Reality of 0.05
Experimental Group	3.8100	.67399	3.431	98	.021	significant
Control group	3.2300	.70612				

Table (5) above shows that the results are significant since the **t**-value ends up being (3.431) with a degree of freedom (98) and a probability (.021). In terms of vocabulary use, grammar, intonation, and pronunciation, there are statistical variations between employing the simulation technique and the standard technique on students' achievement of speaking skills. The findings favor the experimental group who was instructed to utilize a simulation method at a level of (0.05).
Table (6) below illustrates the differences in speaking abilities between the two groups of students, covering the following three terms:

a. fluency and body language
b. information flow and content
c. vocabulary use, grammar, intonation, and pronunciation

After utilizing the simulation and standard techniques, the researchers used the **t**-test to determine the overall average of the two independent groups.
Table (6): Differences between the Experimental and Control Groups

Group statistics						
Groups	Mean Score	Std. Deviation	t-value	Df	Sig. (2-tailed)	Reality of 0.05
Experimental Group	11.6400	1.40322	4.689	98	.034	significant
Control group	10.9200	1.97885				

According to the findings in Table (6) above, there are statistically significant differences between using the simulation strategy and the conventional strategy on students' achievement of speaking skills as a whole. The t-value is calculated (4.689) with a degree of freedom (98) and a probability value (0.34). This means that the experimental group, which is instructed to use the simulation approach at a realistic level of (0.05), achieves better results.

Discussion

Speaking English as a foreign language is considered to be one of the most important difficulties faced by Iraqi students at the university level. The purpose of this study was to determine the impact of simulation on the speaking skills of Iraqi EFL learners, including pronunciation, intonation,

grammar, vocabulary use, and fluency. In the current study, two topics, namely "First Language Acquisition" and "Second Language Acquisition/Learning", were taught to the students in a three week course. As mentioned above, these two topics are both strep of the Linguistics II Course of the curriculum, the textbook prescribed being "The Study of Language" by George Yule. In addition to free discussion, pair work and group work encouraged the students to talk after reading the material in the book. The traditional technique of teaching was used with the students throughout these three weeks. The analysis demonstrated that listening to the lecturers while reading the transcript helped students in the experimental group to improve their speaking abilities. This is evidenced by the fact

that the performance of the experimental group in using body language, intonation, accent, and fluency was better compared to that of the control group. Students who encountered similar speaking representations of cooing, bubbling, telegraphic speech, etc. and who learned through simulation develop similar situations. Using simulation can be an active technology technique that support education. It is useful to reduce students' nervousness and develop their speaking ability (Hamad and Alnuzaili, 2022).

The findings demonstrated that students' development in pronunciation, intonation, grammar, and word usage was encouraging in the experimental group, who learned using the simulation technique. As a result, simulation can be used as a teaching strategy to positively impact students' speaking skills. This, along with the lecturer's reading being available on students' mobile phones, increased students' chances of listening, practicing, and repetition, which later grew their level of speaking proficiency (Hwang, et al., 2014). Finally, the findings also supported Laura and Amparo 2019's assertion that simulation-based instruction aids in the development of oral production.

Conclusion

To sum up, simulation has been an interesting topic of research for scholars, hence a good number of studies have been conducted to tackle the topic, especially in teaching English as a foreign language. To the best of the researchers'' knowledge, although most English teachers at the university level always encouraged their students to practice various language activities, it is very difficult to say we fulfill the aim to help students to be able to speak English without fear, embarrassment, or hesitation. It is important to conclude that the use of simulation assists teachers in introducing additional techniques that can improve their students'' speaking abilities and other EFL skills generally. Students were encouraged through simulation to improve speaking abilities that matched their interests and lessen the stress associated with speaking practice.

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