

BUSINESS SIMULATION GAMES IN DEVELOPING PRE-SERVICE RESTAURANT MANAGERS' SPEECH INTERACTION COMPETENCE USING GPTChat

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Abstract. *The study aims to develop speech interaction skills in language learning of pre-service restaurant managers with focus on professional skills – decision-making in conflict and non-conflict communication situations using business simulation games; to explore the effectiveness of GPTChat as a tool for the development of students' speech interaction competence in the context of business simulation games. A mixed research design was employed which involved 44 pre-service restaurant managers of the National University of Food technologies (Kyiv, Ukraine) in 2023. The quantitative research method was used to assess the students' level of speech interaction competence using the Fisher Criterion. The qualitative research method was used for analyzing and interpreting data of the experimental learning. The results showed that the pre-service restaurant managers who were consulted by teachers, used GPTChat and business simulation games for developing their speech interaction and decision-making skills had higher results than those who only used GPTChat. It has been found that business simulation games allow pre-service restaurant managers to better understand the nature of conflict and non-conflict situations in their professional field, develop speech interaction competence, practice in decision-making in simulation environment. GPTChat can be used as a tool for creating various professional situations, analysing the algorithms of decision-making in conflict and non-conflict situations.*

Key words: *business simulation game, pre-service restaurant managers, speech interaction competence, GPTChat, conflict / non-conflict communication situations, decision-making, ESP.*

1. INTRODUCTION

As Ukraine rapidly integrates into the European educational space, it has become increasingly necessary to improve the quality of pre-service restaurant managers' education at the university level, with a particular emphasis on developing their professional skills. To meet the current professional standards and requirements in the restaurant industry, a competent restaurant manager should possess problem-solving and conflict resolution skills, critical and flexible thinking abilities, thrive in team-oriented environments, foster a comfortable working environment, interact with individuals of diverse backgrounds and ages and cultures, handle criticism gracefully, and have excellent organizational and communication skills. The knowledge of a foreign language will help them solve any problem through communication at the workplace. This urges the search of new methods and tools that can improve English for Specific Purposes (ESP) instruction.

One of such methods is business simulation games. Although they are not new in foreign language teaching, business simulation games are an important and efficient instrument in ESP instruction because they allow a teacher to create a virtual working

space of restaurant business, help students practice necessary skills, promote students' positive attitude to their profession and motivate them. Additionally, students themselves prefer experiential and interactive learning methods to traditional passive methods based on acquiring information rather than working with knowledge, considering that information is important but fleeting (Peterková, Repazká, Prachařová, 2022).

The concept "simulation" is considered as a structured set of circumstances that mirror real life and in which participants act as instructed (Doughill, 1987, p. 20); the imitation of the operation of a real-world process or system (Banks, Carson, Nelson, Nicol, 2001); copy of real life in the form of a game for various purposes such as training, analysis, prediction, or simply entertainment (Koltai & Tamás, 2022). Thus, the main meaning of this term is activities-reality reflection and developing a set of necessary skills as well as foreign language professional competence.

A whole number of publications are devoted to business simulation games and possibilities of their use in the teaching and learning process. For example, Ecke (1998) explains why certain simulation games are more successful than others and outlines the main aspects of any simulation game that lead to success in foreign language classrooms. Among them there are: reality-relatedness, structuredness, emphasis on problem solving, conflict/tension, emotionality, unpredictability / uncertainty and open-endedness (p. 26). In addition, researcher focuses on outcomes such as motivation, animation, involvement, interaction, cooperation/competition, creativity, self-expression, trust/respect, (self-) reflection/evaluation (Ecke, 1998, p. 26). Also, Jääskä, Lehtinen, Kujala, & Kauppila (2022) indicate that game-based learning solutions motivate students and prepare learners to deal with uncertainty, as in real-life projects. "Adding management games to the mix of lectures, tutorials, projects, examination, etc. will enhance the richness of the educational experience and leave students with an experience that will stay with them after much other learning has become a faded memory" (Litvin and Elangovan, 2000, p. 59).

While using business games in ESP classes to study the issues of information security, Kolomiets and Konoplenko (2015) rely on interdisciplinary connections of two disciplines – English for specific purposes and Information security quality assurance technologies, thus providing situations that might occur in students' professional lives. They adapted eight business meetings from Agile software development methodologies and project management framework Scrum and implemented in teaching ESP (p. 58). The stages of the business game (preparation, business game itself and feedback) and its framework were described.

Huang, Silitonga & Wu (2022) believe that business simulation games are linked to skills development, and the flipped classroom is recognized as a successful approach for encouraging student-centered learning through engagement. They investigated the impact of business simulation games in a flipped classroom on students' engagement, learning achievement, and higher-order thinking skills.

Business simulation game is an integral part of practicing professional skills. Using business simulation games, Koltai & Tamás (2022) suggested a method of evaluation of

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the performance of MBA students' decision-making in a car engine manufacturing process (Koltai & Tamás, 2022). Business games for the development of decision making skills in the Marketing, Production and Finance disciplines has become a pedagogical tool for Mafla-Cobo, Peña-Orozco & Lasso-Cardona (2020).

The issue of decision-making is fundamental for conflict resolution. Upadhyay (2021) considers decision-making patterns as determinants of conflict management styles; Liao, Kuang, Liu, & Tang (2021) study non-cooperative behavior management in group decision making by a conflict resolution process and its implementation for pharmaceutical supplier selection. The restaurant business is a complex industry where decision-making and conflict resolution patterns are implemented in relationships with customers, cooks, wait staff, and product suppliers. Therefore, it is crucial for universities to prioritize this aspect in the teaching and learning process for pre-service restaurant managers.

All these studies confirm that business simulation games can be used as a tool for teaching foreign language communication skills, professional skills in different areas of knowledge, stimulating students' "behavioral engagement, cognitive engagement, and learning achievement" (Huang, Silitonga & Wu, 2022) and improving "higher-order thinking skills such as problem-solving, critical thinking, and creativity" (Huang, Silitonga & Wu, 2022), mastering decision-making patterns and conflict resolution skills.

In this survey, we will focus on the professional skills of pre-service restaurant managers, specifically their decision-making abilities in conflict and non-conflict communication situations, as well as their proficiency in foreign language communication skills during business simulation games. To develop these skills we used GPTChat. It is an artificial intelligence chatbot that can help to search the solutions in simulated conflict and non-conflict situations.

Thus, **the aim of this article** is to analyze the effectiveness of ChatGPT tool in the development of English speech interaction skills of pre-service restaurant managers through the use of business simulation games focused on decision-making and conflict resolution.

2. METHODS

2.1. Research design.

In this study we used the mixed research method design. The quantitative research method was used to assess the level of speech interaction competence in the pre-service restaurant managers. The qualitative research method was used for analyzing and interpretation of the experimental learning outcomes.

2.2. Research participants.

The participants of the study were 44 pre-service restaurant managers of the National University of Food technologies (Kyiv, Ukraine) who voluntarily took part in the experimental ESP learning in 2023. The students were not specially pre-selected. The total cohort was divided into two groups: 23 students in experimental group 1 (EG 1) and 21 students in experimental group 2 (EG 2). In the process of experimental learning all the

participants worked on the same educational tasks, and were assessed according to the same criteria.

2.3. Instruments and Procedures.

Three stages were used in this study.

Initially, two experimental groups of pre-service restaurant managers were formed randomly. Learners of EG 1 used GPTChat to develop speech interaction skills through business simulation games focused on decision-making and conflict resolution. In addition, they were regularly consulted by their teachers. Learners of EG 2 only used GPTChat.

At **the first stage**, base on the oral pre-test, the speech interaction competence level of pre-service restaurant managers was assessed.

Pre-service restaurant managers were offered conflict and non-conflict situations with customers, cooks, wait staff and product suppliers.

For example:

Work in pairs. In the restaurant a customer had to wait for his order for a long time. Make up a conversation between the restaurant manager and the customer. Choose roles, plan the conversation and role play it.

The criteria for assessing the level of English language proficiency in speech interaction involve accuracy of task performance, language resource (lexical, grammatical and pronunciation), fluency, interaction (an interlocutor is able to conduct a conversation, give factual information and comments related to the problem), decision-making focus (effective, non-effective). The total score of the test is 100 (20 scores for each criterion).

At **the second stage**, the experimental training was realized.

First, the theoretical issues of conflict resolution and decision making in restaurant management (Food Service Systems Management, Hospitality Purchasing, Sanitation and Safety Principles and Practices, Catering and Banquet Management, Hospitality Human Resource Management), necessary parts of the business simulation game (preparation, business simulation game itself and debriefing) were introduced by the teacher. Exercises for practicing pronunciation, professional vocabulary and grammar were suggested.

Next, the students were offered YouTube conflict and non-conflict situations of restaurant managers and customers. The aim of this step was to analyze different decision making solutions in conflict and non-conflict communication situations; to listen to the language spoken by native speakers.

Then, the students worked with GPTChat to create various professional situations and find solutions to the problems suggested by GPTChat. After that the students analysed the solutions of the artificial intelligence and role played the dialogues according to the algorithm suggested by GPTChat.

Here are two examples of tasks posed by students to GPTChat.

<https://chat.openai.com/chat#:~:text=Open%20sidebar,help%20us%20improve>

Create situations between a restaurant manager and a customer.

Situation 1: The Customer Complaint

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Customer: "Excuse me, there's a problem with my food. I ordered this steak medium-rare, but it's well-done."

Restaurant Manager: "I apologize for the inconvenience. Please allow me to take care of that for you immediately. Would you like me to have a new steak prepared for you?"

Customer: "Yes, please."

Restaurant Manager: "Certainly, I will make sure it's cooked to your liking this time. Please accept our apologies for the mistake."

Situation 2: The Reservation Issue

Customer: "Hi, I have a reservation for two under the name of Smith at 7 pm. Can you confirm that it's still valid?"

Restaurant Manager: "Let me check for you, Mr. Smith. I'm sorry, but I can't seem to find your reservation in our system."

Customer: "What? That's not possible. I called earlier today and made a reservation."

Restaurant Manager: "I apologize for the inconvenience. We must have missed your reservation, but I'll do my best to find a table for you as soon as possible. Can you please give me a few minutes to sort this out?"

Customer: "Okay, I guess that's fine. But I hope you can find us a table soon."

Restaurant Manager: "Absolutely, I'll make sure you're seated as soon as possible. Thank you for your patience."

Situation 3: The Payment Dispute

Customer: "Excuse me, I think there's been a mistake on my bill. I don't remember ordering this bottle of wine, and I think there are some extra charges."

Restaurant Manager: "I'm sorry to hear that, let me take a look at your bill. You're right, there seems to be a mistake. I'll have this corrected immediately."

Customer: "Thank you. I appreciate it."

Restaurant Manager: "No problem. Our goal is to ensure that you have an enjoyable experience here. Please let me know if there's anything else I can do for you."

Situation 4: The Wait Time Complaint

Customer: "Excuse me, we've been waiting for our food for almost an hour now. Is everything okay?"

Restaurant Manager: "I'm so sorry about the wait. We've had a sudden rush of customers, and our kitchen is backed up at the moment. I apologize for any inconvenience this may have caused."

Customer: "Well, we're starving. Is there anything you can do to speed up our order?"

Restaurant Manager: "I'll speak to our kitchen staff right away and see what we can do to get your food out to you as soon as possible. Thank you for your patience."

Customer: "Okay, thanks. We appreciate it."

<https://chat.openai.com/chat#:~:text=Open%20sidebar,help%20us%20improve>

Solve a conflict situation between a restaurant visitor and a restaurant manager when a cold food was served.

If a restaurant visitor is served cold food, it is important to handle the situation with professionalism and empathy. Here are some steps that the manager can take to resolve the conflict:

Listen to the customer: The first step is to listen carefully to the customer's complaint. Allow them to fully express their disappointment and validate their feelings. It's important to acknowledge that they have a right to be upset and that you understand their frustration.

Apologize: Apologize for the mistake and acknowledge that the food should have been served at the correct temperature. Take responsibility for the mistake, and assure the customer that steps will be taken to prevent this from happening again in the future.

Offer a solution: Ask the customer how they would like the situation to be resolved. Would they like a new dish prepared? Would they like the current dish reheated? Or would they like a refund? Offer a solution that meets their needs and is within the restaurant's policy.

Take action: Once a solution has been agreed upon, take immediate action to ensure that the customer is satisfied. If a new dish is being prepared, prioritize its preparation to minimize any further delay. If a refund is required, process it promptly and apologize again for the inconvenience.

Follow up: After the situation has been resolved, follow up with the customer to ensure that they are satisfied with the resolution. This can be done by a phone call or an email to show that the restaurant cares about their customers' experience.

In summary, resolving a conflict situation between a restaurant visitor and a manager when a cold food is served involves active listening, taking responsibility for the mistake, offering a solution, taking immediate action, and following up to ensure that the customer is satisfied with the resolution.”

Next, the communication situations were suggested by teachers where the roles of the students were identified.

For example,

Non-conflict situation

A wedding celebration is planned in our restaurant. As a restaurant manager, you will discuss the menu with the customer.

Restaurant Manager: Offer the customer some dishes. Convince the client to order two expensive dishes.

Customer: agree with some dishes, ask the manager to make a small discount, since the order is large.

Conflict situation

In the evening, there is an important meeting in a restaurant. The fruit supplier delivered low-quality fruit for the second time.

Restaurant Manager: Explain that the restaurant will not be able to fulfill the order and will therefore spoil the relationship with a good customer.

Fruit Supplier: explain that the car broke down on the way, so the driver could not get there for a long time. Promise that this will not happen in the future and offer fruits at a price lower than in the market.

Restaurant Manager: Agree and explain that if this happens again, you will be forced to terminate the agreement to supply fruit to your restaurant and look for another.

Finally, the students were suggested the situations in which they had to make decisions in either conflict or non-conflict situations.

At **the third stage**, based on the oral post-test, the level of speech interaction competence of pre-service restaurant managers was assessed. The post-test assessment criteria were the same as those used for the pre-test.

2.4. Data Analysis

The process of data analysis contained three stages. First, the oral pre-test was offered to define the students' speech interaction competence level. After the experimental learning, oral post-testing was conducted. The results of the two tests were evaluated and compared using the Fisher Criterion. Finally, the data obtained were processed, interpreted and the conclusions were made.

3. RESULTS

In order to identify the effectiveness of the development of speech interaction competence during business simulation game based learning with the use of GPTChat, we outlined the levels of speech interaction competence of the students. The Low Level of speech interaction competence (60-74 scores) meant that the students demonstrated limited speech interaction skills and decision-making abilities in conflict and non-conflict communication situations. The Medium Level of speech interaction competence (75-94 scores) implied that the students had sufficient speech interaction skills and decision-making abilities in conflict and non-conflict communication situations. The High Level of speech interaction competence (95-100 scores) indicated that the students demonstrated good speech interaction skills and decision-making abilities in conflict and non-conflict communication situations.

The results obtained from the oral pre-test demonstrated that at the beginning of the experiment, the levels of speech interaction competence in both experimental groups were almost the same. After the experimental learning, the speech interaction skills of the pre-service restaurant manager in EG 1 were developed at a higher level than in EG 2. The results are given in Table 1.

Table 1. The levels of English language speech interaction competence of the pre-service restaurant manager

Dynamics in experimental	Oral pre-test	Oral post-test
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groups						
Level of speech interaction competence	High	Medium	Low	High	Medium	Low
Ex. Group 1 (EG 1)	4 (17.4%)	9 (39.1%)	10 (43.5%)	9 (39.1%)	13 (56.5%)	1 (4.4%)
Ex. Group 2 (EG 2)	5 (23.8%)	8 (38.1%)	8 (38.1%)	6 (28.6%)	8 (38.1%)	7 (33.3%)

From Table 1 it is evident that in EG 1, where the students were consulted by the teachers and the GPTChat was used for the development of their speech interaction competence, only 1 (4.4%) student showed a low level of speech interaction competence. While in EG 2, where no teachers' assistance was applied, there were 7 (33.3%) such students. The medium level was achieved in 13 (56.5%) students of EG 1 in contrast to 8 (38.1%) students of EG 2. Also, a high level of speech interaction competence was demonstrated by 9 (39.1%) students of EG 1 compared to 6 (28.6%) students of EG 2.

For defining which group of pre-service restaurant managers demonstrated a higher result of the development of speech interaction competence, the Fisher Criterion was applied.

Two hypotheses were formulated:

H₀: the percentage of pre-service restaurant managers who increased the level of speech interaction competence in EG 1 is not higher than in EG 2 as reported by the experimental results.

H₁: the percentage of pre-service restaurant managers who increased the level of speech interaction competence in EG 1 is higher than in EG 2 as reported by the experimental results.

Our assessment was that the pre-service restaurant managers who attained high or medium levels of speech interaction competence achieved an "effect" in their learning, while those who attained a low level of speech interaction competence did not achieve such an effect.

Using Fisher's (2017) formula $\varphi^*_{emp.} = (\varphi_1 - \varphi_2) \cdot \sqrt{\frac{n_1 \cdot n_2}{n_1 + n_2}}$,

where $\varphi_1 = 95.6\%$, $\varphi_2 = 66.7\%$ (Table 2), and using the software (https://www.eztests.xyz/criteria/fisher_angular_transformation/results), we found that $\varphi^*_{emp.} = 2.686$.

Table 2. The effectiveness of development of speech interaction competence in experimental groups

Experimental groups	Learning "effect"	No learning "effect"	Total
	Number of students (%)	Number of students (%)	

Ex. Group 1 (EG 1)	22 (95.6%)	1 (4.4%)	23 (100%)
Ex. Group 2 (EG 2)	14 (66.7%)	7 (33.3%)	21 (100%)

The value of $\varphi^*_{emp.}$ (2.686) is greater than 2.31, which shows that it is in the significance zone. Thus, only hypothesis H_1 is acceptable. This means that the percentage of pre-service restaurant managers who increased the level of speech interaction competence in EG 1 was higher than in EG 2 in accordance with the experimental results. This shows that the pre-service restaurant managers who were consulted by teachers and used GPTChat for developing their speech interaction competence (EG 1) achieved higher results compared with the pre-service restaurant managers of EG 2.

4. DISCUSSION

The results of this study demonstrated that the use of business simulation games and ChatGPT had a favorable impact on the development of speech interaction competence among pre-service restaurant managers.

As a simulated environment, business simulation games enable pre-service restaurant managers to develop their decision-making abilities in both conflict and non-conflict communication scenarios. It involves: defining the problem, realizing the importance of finding a solution, gathering data and insights, developing potential solutions using problem-solving techniques, refining the solution, implementing the solution, measuring the effectiveness of the solution (Dawson, 2020). These steps lead to deeper understanding of the situation and finding a more effective solution.

According to Scannell (2010), conflict is a natural and normal feature of the workplace that occurs in every organization (p. 1). To achieve goals in finding a solution, conflict is inevitable. As a result, "the outcome doesn't have to be negative" (Scannell, 2010). Students and teachers suggested various scenarios that emphasized the importance of addressing conflicts rather than ignoring them. The focus was on achieving consensus and building positive outcomes.

This is in line with a survey conducted by Scannell (2010) which showed that using business simulation games to resolve conflicts helps the students to "experience the process, understand key points, build morale, trust each other, become more flexible and adaptive, reinforce appropriate behaviors, provide opportunities to connect" (p. 8-9). Foreign language serves as both the objective and the means of achieving the effective communication during conversations. Practicing the speech interaction skills of pre-service restaurant managers not only guarantees the accuracy and fluency of speech, but also adds confidence in decision-making.

Utilizing ChatGPT's different algorithms as a tool can improve speech interaction competence by creating diverse professional scenarios and identifying solutions to these

situations. These efforts can effectively enhance the organization of the pre-service restaurant managers' teaching and learning process.

5. LIMITATIONS

This study was devoted to the development of speech interaction skills of pre-service restaurant managers with focus on decision-making in professional conflict and non-conflict communication situations during business simulation games. The effectiveness of ChatGPT in the development of speech interaction competence of language learners was estimated. The scope of this study was limited in terms of the number of participants (44 pre-service restaurant managers), which makes these findings less generalizable. Similar surveys can be conducted on the data sets of a wider audience to receive new insights.

6. CONCLUSIONS

Using business simulation games to improve the speech interaction competence of pre-service restaurant managers enables them to enhance their communication, trust, and collaboration skills in diverse professional communication situations, whether in conflict or non-conflict scenarios. Decision-making patterns suggested by GPTChat provide instruments for generalizing algorithms of conflict resolution in professional communication situations. Thus, business simulation games and GPTChat are effective tools that can be used to promote students' speech interaction competence and develop problem-solving skills. In addition, they can also help pre-service restaurant managers prepare for their future professional environment.

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Conflict of interest

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