



The Role of Picture-Based Speaking Activities in First-Year Turkish Language Teaching Students' Willingness to Communicate in English

Resim Temelli Konuşma Etkinliklerinin Türkçe Öğretmenliği Birinci Sınıf Öğrencilerinin İngilizce İletişim Kurma İstekleri Üzerindeki Rolü

Şadıman HUNUTLU ^{1*}

¹ Trabzon University, Trabzon, Türkiye

Abstract: Considering the significant role of willingness to communicate (WTC) in the development of speaking skills in foreign language learning, this study investigates the role of picture-based speaking activities in students' WTC in English. The sample consisted of 30 first-year students enrolled in the Turkish Language Teaching Program at a Turkish state university. These students attended two hours of compulsory English classes per week, as they were not exempted from the course based on the placement test administered at the beginning of the semester. The course lasted 14 weeks, during which students participated in picture-based speaking activities once every two weeks, with activities corresponding to each unit. This quasi-experimental study employed a questionnaire administered as a pretest and posttest to collect data. Data were analysed using SPSS 20, employing descriptive and inferential statistics, including paired-samples and independent-samples t-tests. The results indicated a statistically significant increase in students' WTC scores following the implementation of the picture-based speaking activities. Descriptive comparisons also indicated some variation across subgroups. Specifically, male participants had higher posttest WTC scores than female participants, while students aged 20 and above obtained higher scores than younger participants. However, the absence of a control group and the relatively small sample size should be considered when interpreting the findings, as these factors may limit their generalisability. The findings are discussed in terms of theoretical implications, implications for classroom practice, and recommendations for future research.

Keywords: *Picture-based speaking activities, willingness to communicate, WTC, English*

Özet: Yabancı dil öğreniminde iletişim kurma isteğinin konuşma becerisinin geliştirilmesindeki önemli rolü göz önünde bulundurularak gerçekleştirilen bu çalışma, resim temelli konuşma etkinliklerinin öğrencilerin İngilizcede iletişim kurma isteğindeki rolünü incelemektedir. Araştırmanın örneklemini, Türkiye'deki bir devlet üniversitesinin Türkçe Öğretmenliği Programında öğrenim gören ve dönem başında uygulanan muafiyet sınavı sonucunda İngilizce dersinden muaf olmayarak haftada iki saat zorunlu İngilizce dersi alan 30 birinci sınıf öğrencisi oluşturmaktadır. On dört hafta süren ders kapsamında öğrenciler, iki haftada bir, ilgili üniteye yönelik resim temelli konuşma etkinliklerine katılmıştır. Yarı deneysel desende yürütülen çalışmada veriler, ön test ve son test olarak uygulanan bir anket aracılığıyla toplanmıştır. Verilerin analizinde SPSS 20 programından yararlanılmış; betimsel ve çıkarımsal istatistikler kapsamında bağımlı örneklem için t-testi ve bağımsız örneklem için t-testi uygulanmıştır. Bulgular, resim temelli konuşma etkinliklerinin uygulanmasının ardından öğrencilerin iletişim kurma isteğine ilişkin ortalama puanlarında istatistiksel olarak anlamlı bir artış olduğunu göstermiştir. Ayrıca, betimsel karşılaştırmalar alt gruplar arasında bazı farklılıklar bulunduğuna işaret etmiştir. Buna göre, son testte erkek katılımcıların iletişim kurma isteği puanları kadın katılımcıların puanlarından daha yüksek bulunurken, 20 yaş ve üzerindeki öğrenciler de daha genç katılımcılara kıyasla daha yüksek puanlar elde etmiştir. Bununla birlikte, çalışmanın bir kontrol grubu olmaksızın yürütülmüş olması ve görece küçük bir örnekleme dayanması, elde edilen bulguların genellenebilirliğini sınırlandırabilecek temel unsurlar olarak değerlendirilmelidir. Çalışmanın sonuçları, kuramsal çıkarımlar, sınıf içi uygulamalara yönelik öneriler ve gelecekteki araştırmalara ilişkin öneriler doğrultusunda tartışılmıştır.

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*Corresponding author:

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sadimanhunutlu@trabzon.edu.tr

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1. Introduction

In today's interconnected world, communicating in English has become essential for interacting with people from different cultural backgrounds (Hasman, 2004), and speaking has emerged as one of the most vital skills for effective interaction in a globalised society (Lysenko, 2022). Moreover, proficiency in speaking is crucial for language learners, as it enables them to actively engage in meaningful conversations with others (Iman, 2017). For this reason, learners of English need to improve their speaking skills (Graves, 2008).

Various methods have been used in studies to teach English communicatively (Akmal, 2020; Amir & Anggitasari, 2021; Kurniawan, 2022; Tan, 2021) because having good English-speaking skills has been recognised as one of the keys to success in life (Nazara, 2011). However, although language learners desire to communicate in the target language, speaking is one of the most challenging skills to develop in EFL classrooms. For this reason, language learners may find it challenging to keep their interest in developing speaking skills alive (Shumin, 2002). In addition, teaching a foreign language in a school environment can be as difficult as learning it (Al-Hassaani & Qaid, 2021). Students' reluctance to participate in impromptu speaking activities, crowded class sizes, limited class time, and insufficient curriculum are some of the difficulties encountered in foreign language teaching (Rahimi & Fathi, 2022). In spite of all these adverse conditions, increased WTC levels facilitate more frequent and extensive interactions, which are critical for successful second language acquisition (Sato, 2020; Solhi, 2024). Therefore, interactive, individualised communication activities combined with the right teaching style are needed to improve students' speaking skills in the target language and increase student engagement (Oradee, 2012). Since both classroom and real-world communication strategies affect students' motivation, it is also very important to apply practical approaches that are open to communication (Yoo & Park, 2015). These communicative student-centred approaches help students to feel safe, collaborate, correct each other in the process, and strengthen their English-speaking skills (Awla & Haji, 2023). Extending the principles of interactive, student-centred learning, picture-based speaking activities enable learners to engage actively with visual prompts, facilitating the interpretation and communication of ideas generated from these stimuli (Farih & Dewi, 2021).

In this study, picture-based speaking activities were employed to enhance students' in-class interactions in English. Focusing on the potential impact of picture-based speaking activities on EFL learners' WTC, the study aimed to answer the following research questions:

- What are the levels of students' WTC?
- Do WTC levels vary significantly between age and gender groups?
- Do picture-based speaking activities lead to changes in students' WTC?

1.1. Literature Review

Willingness to Communicate

WTC refers to the willingness to start a conversation when there is an opportunity, and it is essential for encouraging learners to actively participate in spoken communication in second language (L2) classrooms (MacIntyre et al., 2001). Understanding the concept of WTC is crucial for language learning and teaching because learners with higher WTC actively engage in communicative activities, thereby enhancing their language proficiency. In addition, teachers can implement strategies that foster WTC to create a more engaging and effective learning environment (MacIntyre et al., 2002; MacIntyre et al., 2011).

MacIntyre's WTC model presents the variables affecting learners' WTC in a second language in six layers. These layers essentially represent two structures: the top three layers (communication behaviour, behavioural intention, situated antecedents) reflect situational influences on WTC at a given moment, whereas the bottom three layers (motivational propensities, affective-cognitive context, social and individual context) represent more stable and enduring influences. From top to bottom, the model illustrates how immediate, situation-specific contexts interact with more permanent and individual characteristics to shape L2 communication processes. This structure emphasizes that WTC is determined not only by short-term situational factors but also by long-term factors such as motivation, social environment, and personality (MacIntyre et al., 1998).

In relation to MacIntyre et al.'s (1998) WTC model, the present study particularly addresses the situational dimensions of L2 WTC, especially the situated antecedents layer involving communication anxiety and situational self-confidence. By reducing the cognitive and communicative load associated with spontaneous L2 speech, picture-based narratives provide a scaffold that shifts learner focus from linguistic perfection to authentic interaction. Empirical evidence suggests that this meaning-centered focus allows learners to overcome anxiety-induced restraining factors and sustains higher dynamic WTC in the classroom (MacIntyre & Wang, 2021). Furthermore, the supportive and visually enriched classroom environment may have encouraged learners to participate more actively in communication behaviours by lowering the perceived pressure of spontaneous speech production, especially for students with lower proficiency levels. Therefore, the findings of the study can be interpreted within the framework of MacIntyre et al.'s model as reflecting the interaction between contextual classroom support and learners' situational WTC. This perspective is in line with earlier empirical studies which indicate that decreasing communication anxiety and promoting supportive instructional environments significantly contribute to the development of learners' WTC (Sato, 2020; Yuan, 2023).

Picture-Based Speaking Activities

Pictures are valuable tools in speaking lessons because they give learners a concrete topic to discuss and shift attention away from their uncertainty with the target language. They can introduce interesting topics beyond the textbook, provide visual support that helps learners remember vocabulary and structures, and make classroom activities more engaging. In addition, pictures can stimulate creative and critical thinking and can be used in language teaching (Bailey, 2005). Using picture-based speaking activities facilitates language acquisition by providing concrete visual stimuli that enhance communication, often proving more effective than verbal descriptions alone. These activities engage students in meaningful language use and help foster confidence (Phuong, 2018).

Picture-based speaking activities facilitate language development by providing visual prompts that encourage learners to use new vocabulary, describe scenes, and engage in dialogue, thereby supporting the development of speaking abilities (Farih & Dewi, 2021). When images are selected in line with specific linguistic objectives, such as describing people or narrating events, these activities enable learners to use language in context rather than focusing on their linguistic limitations. As a result, they help sustain attention, promote interaction, and reduce potential misunderstandings in the classroom (Sahyoni & Zaim, 2017). Additionally, picture-based tasks can be adapted to different proficiency levels through activities such as picture-cued descriptions or narrative sequences, allowing learners with lower language proficiency to participate more effectively (Inayah et al., 2019).

The AI-supported picture-based speaking activities used in this study may have functioned as a form of visual scaffolding that helped learners generate ideas, organize their thoughts, and maintain interaction during speaking tasks. In this

sense, the intervention may have reduced communication anxiety and increased situational confidence, both of which are emphasized within the “situated antecedents” layer of the WTC model. In this regard, picture-based speaking activities may provide affective support by reducing the cognitive and communicative pressure associated with spontaneous L2 production. When supported with AI-generated visuals, such activities may also strengthen learners’ perceived communicative competence by facilitating idea generation and interactional participation, particularly for learners with lower proficiency levels.

Previous research has shown that visual support in speaking activities can enhance pronunciation, vocabulary retention, and overall speaking proficiency, while also improving learners’ confidence, engagement, and motivation (Husnu et al., 2022; Hoa et al., 2022; Simamora et al., 2018; Sarmila et al., 2023; Suparlan & Rosyidi, 2022). In parallel, WTC has been recognized as a key factor in promoting active participation in L2 communication (MacIntyre et al., 2001; MacIntyre et al., 2002; MacIntyre et al., 2011), and picture-based speaking activities have been widely reported to support speaking skill development (Farih & Dewi, 2021; Sahyoni & Zaim, 2017). However, existing research has predominantly examined speaking performance and general language development, with comparatively limited attention to learners’ WTC. Moreover, studies exploring the relationship between picture-based speaking activities and WTC remain scarce, particularly in Turkish higher education contexts. Considering that WTC is shaped by situational classroom factors such as communication anxiety, perceived communicative competence, and situational confidence (MacIntyre et al., 1998), instructional practices that foster supportive and meaningful communicative environments may be particularly influential. In this regard, picture-based speaking activities may offer such conditions by providing visual input, facilitating topic development, and reducing the perceived threat of spontaneous language production. Accordingly, investigating their potential role in enhancing WTC may contribute to a more integrated understanding of how classroom practices influence both speaking development and learners’ willingness to communicate.

2. Methodology

2.1. Research Design

This study, in which picture-based speaking activities were organised in accordance with the weekly course content of the English course, was conducted using a quasi-experimental design. In this study, a one-group pretest-posttest design (Creswell, 2009) was employed to examine whether participants’ WTC differed between the pretest and posttest measurements, and quantitative data were collected. In this design, participants were assessed on the dependent variable both before and after the intervention. Although the absence of a control group and potential external factors such as maturation or testing effects may limit internal validity (Mertens, 2010), this design was deemed necessary due to ethical considerations, ensuring that all participants had access to the intervention. Furthermore, the primary aim of the study was to track individual development rather than to compare groups (Çalık, 2013). At the beginning of the study, pretests were administered to determine the participants’ existing levels of WTC, providing quantitative data that reflected their initial status. Immediately following the intervention, posttests were administered to obtain further quantitative data, enabling analysis of differences in WTC between the pretest and posttest measurements. Therefore, the study examined changes in students’ WTC over the course of the study in the context of picture-based speaking activities.

2.2. Sample of the Study

The sample of this study consisted of 30 first-year students studying in the Department of Turkish Language Teaching at the Faculty of Education of a state university in Türkiye. The name of the university has been kept anonymous for ethical reasons to protect participants' privacy. The participants could not pass the English exemption exam upon university admission and were taking an A1-A2 level of English as a compulsory foreign language course for 2 hours per week. These participants had completed the 16-week fall term (14 weeks of instruction and 2 weeks of exams) of the English course; therefore, they were already familiar with English-speaking activities. Additionally, as these students were studying at the Turkish Language Teaching Department, they had a good command of issues such as using the language and making impromptu speeches. Owing to these qualifications, they were determined as the participant group of this study with the purposive sampling method (Creswell, 2009). For ethical considerations, all participants were included in the intervention to ensure that everyone could join the activities; however, they were informed that they could withdraw from the study at any time, in line with ethical principles. Within the scope of the Foreign Language-II (English) course, picture-based speaking activities were presented to all students. However, regarding data collection, 30 students from the Turkish Language Teaching Department, out of a total of 47 students, voluntarily participated in the study. The data listing the age and gender information of the participants included in the study are shown in Table 1.

Table 1
Demographic Information of the Participants (N = 30)

Measure	N	%
Gender		
Female	20	66.7
Male	10	33.3
Age		
18	6	20
19	11	36.7
20	6	20
21	2	6.7
22	3	10
23	1	3.3
24	1	3.3

As seen in Table 1, 20 participants were female (66.7 %), and 10 (33.3 %) were male. The participants' ages ranged between 18 and 24. The highest number of participants in the study was 19 years old (N=11, 36.7%), while there was only one (3.3%) participant, each aged 23 and 24.

2.3. Data Collection Tool

In this quantitative study, the 10-item Willingness to Communicate in English in a Foreign Language Course Questionnaire, originally developed by Peng and Woodrow (2010) and adapted by Altner (2017) in her doctoral thesis study, was used to reveal students' WTC in the target language. It contained ten items with a Likert-type scale ranging from 1 (absolutely not willing) to 6 (absolutely willing). Sample items included statements such as *I am willing to give a short self-introduction without notes in English to the class* and *I am willing to ask my peer sitting next to me in English how to say an English phrase to express the thoughts in my mind*. A two-factor structure for WTC was identified, consisting of six items related to willingness to communicate in meaning-focused activities (e.g., delivering a speech in class) and four items related to willingness to communicate in form-focused activities (e.g., asking about the meaning of

a word). In this study, the first part of the questionnaire collected demographic information, such as age and gender, and the second part included items measuring students' WTC. Cronbach's alpha for the questionnaire was .91 on the pretest and .86 on the posttest; both values indicate high reliability (Pallant, 2010). The WTC scale was adopted from previous validated studies with a two-factor structure, and Cronbach's alpha indicated satisfactory reliability; however, the factorial structure was not retested in this study due to sample size limitations. In order to get more accurate information from the participants, the Turkish (native language of the participants) version of the questionnaire was used (Søderberg, 2006). As described in detail in Altner's study (2017), the translation process was carried out using both translation and back-translation techniques to minimize potential semantic loss. Initially, the original scales were translated into Turkish independently by three English majors, and the most natural and appropriate version was selected. Subsequently, the Turkish version was back-translated into English by three different English majors without reference to the original text. The equivalence between the original English version and the Turkish translation was then evaluated by a group of bilingual experts, followed by an additional evaluation comparing the original English version with the back-translated version to ensure semantic consistency and reduce potential discrepancies in item meaning. The students filled out the questionnaire using Google Forms.

2.4. Research Procedure

The activities, which lasted 8 weeks in total, were carried out in the last 20 minutes of the two-hour English classes, which consisted of 45+45 minutes each week. The images were generated by providing ChatGPT with prompts that included detailed instructional specifications such as the unit name, target vocabulary, and grammar focus, while excluding content that was not appropriate for classroom use. In addition, supplementary prompts were used to refine the generated images by removing undesired elements or incorporating the required instructional features. The generated images were then reviewed and selected based on their relevance, clarity, difficulty and appropriateness for the learners' proficiency level. In addition, the applicability of the selected images was evaluated by two field experts who teach the same course across the university, ensuring that the images were suitable for classroom implementation. The experts evaluated whether the images included visual representations of vocabulary reflecting the unit content, and thus the course curriculum, as well as whether they enabled the production of speech related to the grammatical structures of the unit. The selection process followed predefined criteria to ensure consistency across all materials. Based on these evaluations, the images and the content of the accompanying questions were revised accordingly. Thus, these procedures contributed to the validity and reliability of the selected images. The topics covered by the weekly speaking activities are given in Table 2.

Table 2
Eight-Week Picture-Based Speaking Topics

Week	Topic
1 st Week	Talking about favourite food and favourite recipe.
2 nd Week	Using comparative and superlative adjectives.
3 rd Week	Describing a place
4 th Week	Comparing places
5 th Week	Talking about clothes and using the present continuous tense
6 th Week	Talking about future plans
7 th Week	Talking about the weather forecast
8 th Week	Talking about transportation and using the present perfect tense

Apart from the primary research materials, curriculum-appropriate visuals were previously developed using artificial intelligence (AI) tools and integrated into the speaking tasks of the preceding semester. This preliminary implementation functioned as an extensive piloting phase, which allowed the researchers to identify any prospective difficulties learners might experience with the visual stimuli and to assess the practical usability and pedagogical efficacy of the images. During the implementation, the type of speaking activity, such as pair work, group work, or individual speaking, was determined based on the content of the AI-generated image presented to the students. Each student was allocated a flexible amount of time to speak with participation based on the students' willingness. Before speaking, students were provided with paper and pencil and given about one minute to take notes on what they observed in the image. Speaking was then initiated according to the students' voluntary participation. Less willing students were engaged through simple questions related to the image (e.g., yes/no questions), and follow-up questions were posed based on students' responses to encourage further expression. Despite the initial teacher-centred appearance of the activities, the integration of pair and collaborative group work embedded substantial opportunities for peer learning. In pair or group activities, either a spokesperson was selected, or all willing members of the group were invited to contribute. Teachers provided supportive feedback and, where appropriate, indirect correction to encourage participation and expression. In the activities, only volunteer students participated in the speaking activities in the first week, and in the following weeks, all students were ensured to participate in the lesson. The researcher asked the students questions about what they saw in the picture projected on the board, their feelings when they saw the picture, the topic and the main idea of the picture, and their ideas about how the picture could be named. The answers were received. The same implementation procedure was applied in all sessions to maintain standardisation of classroom practice. As an example, the picture created with the help of AI, which included the topic of the 5th week, both to talk about the clothes of the people in the visual and to make these sentences using the present continuous tense, is given in Figure 1.

Figure 1

Sample Activity Picture (5th Week)



Before starting the activities, pretests were administered to the students, followed by picture-based speaking activities that lasted for eight weeks. Posttests were then administered after the picture-based speaking activities in the eighth week. Although the activities in the process were implemented with all students, only those who volunteered were

included in the survey. The voluntary participants completed the questionnaire via Google Forms using pseudonyms. This approach was adopted to ensure that students felt more comfortable in deciding whether to participate in the study.

2.5. Data Analysis

The quantitative data obtained with the data collection tools were subjected to descriptive and inferential analyses using SPSS (20) (Pallant, 2010). Before the analyses, the data were checked for missing values, and the normality of each variable was assessed. According to the Skewness and Kurtosis values, a range of -1.5 to +1.5 indicates a normal distribution (Tabachnick & Fidell, 2013). In addition, other assumptions necessary for the analyses (homogeneity of variance, independence of observations, and paired data structure) were met, and statistical tests were performed (Pallant, 2010). Firstly, descriptive statistics were performed for the first research question to reveal the general characteristics of the participants' key study measures. During the analyses, the age variable was categorised into two groups (18-19 and 20-24) based on the distribution of participants' ages. Since some age categories contained only a small number of individuals (e.g., 21-24), adjacent ages were merged to obtain adequately sized groups and enhance the reliability of the statistical analyses. Moreover, this classification corresponds to meaningful developmental stages, where ages 18-19 indicate the transition into early adulthood, and ages 20-24 reflect a more established phase of early adulthood. Then, for the second research question, an independent samples t-test was performed to check whether there was a difference in WTC values according to gender and age groups. In addition, a dependent samples t-test was conducted to compare the participants' WTC scores in the pretest and posttest and to examine differences between the two measurements (Pallant, 2010). Finally, the effect size values have been reported by calculating Cohen's d, as it is an appropriate measure for evaluating the magnitude of differences between two groups.

2.6. Ethics Committee Permission

This study was carried out in accordance with the ethics committee permission from the Social and Human Sciences Scientific Research and Publication Ethics Committee dated 07.05.2024 and document number E-81614018-050.04-2400021757. Before data collection, participants were informed in detail about the purpose and procedures of the study, and informed consent was obtained on a voluntary basis. The principal investigator also served as the course instructor; however, students were clearly informed that their academic grades would not be affected by their participation or non-participation. Participants were assured that their involvement was voluntary and that they could withdraw at any stage without any consequences. To maintain anonymity, no identifying information was collected, and all responses were coded. All data were stored securely and used exclusively for research purposes, ensuring confidentiality. Although all students participated in the picture-based speaking activities during the course, only those who voluntarily agreed were included in the data collection process, and the number of participants in the course did not fully overlap with those who took part in the pretest and posttest procedures.

3. Results

This study investigated the role of picture-based speaking activities in students' WTC in a foreign language classroom. Data were collected through pretest and posttest questionnaires and analyzed using descriptive and inferential statistics, including paired and independent samples t-tests. The following section presents the results in a structured manner, highlighting overall changes in WTC levels, differences based on gender, and variations across age groups, along with corresponding effect sizes.

3.1. Findings for RQ1: What are the Levels of Students' WTC?

Descriptive pretest and posttest data analyses were conducted to answer the first research question. In Altiner's study (2017), students' WTC was evaluated following Liu and Jackson (2008), which classifies scores based on their percentage of the full score. According to this method, scores below 60% indicate low WTC, scores between 60% and 80% indicate moderate WTC, and scores above 80% indicate high WTC. Since the scale consists of 10 items on a 6-point Likert scale, the full score is 60, corresponding to cut-off points of 36 and 48. In the present study, however, mean scores were used instead of total scores; therefore, these thresholds were adapted accordingly. Mean scores below 3.60 were classified as low, scores between 3.60 and 4.80 as moderate, and scores above 4.80 as high WTC.

Descriptive Analyses of WTC in Pretest and Posttest

According to the descriptive analyses, the mean score of the participants' WTC was 3.20 ($SD = 1.19$) in the pretest, indicating a low level based on the WTC scale criteria, whereas in the posttest, the mean WTC score increased to 4.02 ($SD = 0.94$), indicating a moderate level. Item-level analysis of the 10-item pretest and posttest WTC questionnaire is given in Table 3.

Table 3

Pretest and Posttest Means and Standard Deviations for WTC Items (N = 30)

Item	Description	Pretest M (SD)	Posttest M (SD)
W1	Performing a role-play in front of the class	2.87 (1.66)	3.50 (1.57)
W2	Giving a short self-introduction without notes	3.10 (1.37)	3.87 (1.19)
W3	Delivering a speech about hometown with notes	3.03 (1.40)	3.90 (1.37)
W4	Performing a translation or communication task with a group	3.03 (1.54)	3.97 (1.13)
W5	Asking the teacher to repeat what was said	3.50 (1.66)	4.27 (1.48)
W6	Participating in desk-based role-plays with a peer	3.23 (1.48)	3.97 (1.38)
W7	Asking a peer about the meaning of an unfamiliar word	3.50 (1.78)	4.23 (1.45)
W8	Asking group mates to translate a spoken utterance from Turkish into English	3.57 (1.61)	3.97 (1.13)
W9	Asking group mates or the peer sitting next to them about pronunciation	3.73 (1.60)	4.10 (1.49)
W10	Asking a peer how to express a thought in English	3.63 (1.47)	4.17 (1.49)
Total		3.20 (1.19)	4.02 (0.94)

As can be seen in Table 3, the mean scores across all items exhibited a steady increase from the pretest to the posttest. In the pretest, the highest mean score was identified for asking group members or peers about pronunciation ($M = 3.73$, $SD = 1.60$), while the lowest score was noted for performing a role-play in front of the class ($M = 2.87$, $SD = 1.66$). In the posttest, the highest mean score was recorded for asking the teacher to repeat what was said ($M = 4.27$, $SD = 1.48$), while performing a role-play in front of the class ($M = 3.50$, $SD = 1.57$) remained the lowest scoring item. Overall, all posttest mean scores increased, but both tests revealed the same pattern: items of individual tasks often had higher mean scores, while those about group activities or giving presentations in front of the class had lower scores. For example, asking how to express a thought in English (W10) and asking about pronunciation (W9) had higher means, while performing a role-play in front of the class (W1) consistently had lower mean scores. Although W1 was the item with the lowest WTC score in the posttest, its mean value ($M = 3.50$) was still close to the moderate level. The mean scores for all other items were within the medium range. Conversely, in the pretest, all items indicated low levels of WTC, with the exception of W10 ($M = 3.63$), which was the only item demonstrating a moderate level of WTC.

3.2. Findings for RQ2: Do WTC Levels Vary Significantly Between Age and Gender Groups?

To address the second research question, descriptive statistics and inferential analyses using independent-samples t-tests were conducted to examine whether WTC scores differed across gender and age groups. Given the relatively small and unequal subgroup sizes, these analyses were treated as exploratory and interpreted with caution.

Descriptive Statistics

Table 4 displays the descriptive statistics of WTC scores for gender and age groups at both pretest and posttest stages.

Table 4
Descriptive Statistics for WTC Scores by Gender and Age Groups

Group	N	Pretest M (SD)	Posttest M (SD)
Female	20	3.88 (.65)	3.90 (1.05)
Male	10	2.20 (1.25)	4.24 (.67)
Age 18-19	17	3.29 (1.30)	3.95 (.22)
Age 20-24	13	3.36 (1.08)	4.10 (.28)

As shown in Table 4, female students ($N = 20$) had mean WTC scores of 3.88 ($SD = .65$) at pretest and 3.90 ($SD = 1.05$) at posttest, both corresponding to a moderate level of WTC. Male students ($N = 10$) had a mean pretest score of 2.20 ($SD = 1.25$), classified as low, and a mean posttest score of 4.24 ($SD = .67$), classified as moderate. Regarding age, students aged 18-19 years ($N = 17$) and 20-24 years ($N = 13$) had mean pretest scores of 3.29 ($SD = 1.30$) and 3.36 ($SD = 1.08$), respectively, both corresponding to low levels of WTC. At posttest, the mean scores of the 18-19 age group ($M = 3.95$, $SD = .22$) and the 20-24 age group ($M = 4.10$, $SD = .28$) corresponded to moderate levels of WTC. These differences were further examined using inferential analyses, specifically independent-samples t-tests.

Inferential Statistics

Independent-samples t-tests were conducted to examine whether WTC scores differed significantly across gender and age groups at the pretest and posttest stages. At the pretest stage, an independent-samples t-test revealed that the mean difference between the two groups was statistically significant, $t(11.49) = -3.99$, $p = .002$, $d = 1.89$. This represents a large effect size for the difference in WTC scores between genders (Cohen, 1988); however, this effect size should be interpreted with caution, as it may be inflated due to the relatively small sample size of the male group (Brydges, 2019), which could affect the generalizability of the results. In contrast, no statistically significant differences were found between the age groups, $t(28) = -.42$, $p = .68$. At the posttest stage, an independent-samples t-test was conducted to compare posttest WTC scores across gender and age groups. The results indicated no statistically significant difference between female and male students, $t(28) = .09$, $p = .93$. In terms of age, no statistically significant difference was observed between the two age groups, $t(28) = -.42$, $p = .68$.

3.3. Findings for RQ3: Do Picture-Based Speaking Activities Lead to Change in Students' WTC?

Paired Samples T-Test Results

According to the descriptive statistics, the mean WTC scores differed between the pretest and posttest, with the pretest mean being 3.20 ($SD = 1.19$) and the posttest mean being 4.02 ($SD = .94$). In addition, a paired-samples t-test was conducted to examine the difference between pretest and posttest scores, as presented in Table 5.

Table 5
Paired Samples T-Test Results

Variable	N	M	SD	t	df	p
Pretest	30	3.20	1.19	2.64	29	.013
Posttest	30	4.02	.94			

As seen in Table 5, there was a significant difference between the pretest ($M = 3.20$, $SD = 1.19$) and posttest measurements ($M = 4.02$, $SD = .94$), $t(29) = 2.64$, $p = .013$. The effect size, calculated as Cohen's d , was $d = 0.48$, indicating a medium effect (Cohen, 1988).

4. Discussion

All WTC scale items showed an increase in the posttest compared to the pretest ($M = 4.02$, $SD = 0.94$). In the pretest, most items indicated low levels of WTC, with the exception of Item 10, which showed a moderate level. Although Item I (WI) was the lowest-scoring item in the posttest, its mean value remained close to the moderate level, while the other items generally fell within the moderate range. These findings suggest that picture-based speaking activities may have contributed to an overall increase in students' WTC, fostering greater engagement and participation in classroom interactions. This outcome is consistent with previous research indicating that visual and interactive activities, such as picture-based tasks, may enhance learners' confidence and motivation in speaking (Sarmila et al., 2023; Hoa et al., 2022). It can therefore be inferred that opportunities for idea generation, guided peer interaction, and small-group collaboration may create a more supportive environment that encourages participation, particularly among initially less confident learners. Within this overall pattern of improvement, the consistently lower scores observed in the role-play item (W1) across both the pretest and posttest suggest the influence of public speaking anxiety, fear of negative evaluation, and classroom culture. From a structural perspective, role-play activities require a high level of public performance, which naturally elicits public speaking anxiety. As noted by Young (1990), spontaneous performance in front of the whole class shifts learners' attention away from language production toward anxiety related to public exposure, thereby increasing the perceived threat of the task. This threat is further reinforced by the fear of negative evaluation. Horwitz et al. (1986) argue that foreign language anxiety intensifies when learners perceive a risk to their social self-image in front of peers. Within the collective classroom setting, the possibility of making errors may lead to a fear of negative social judgment (Leary & Tangney, 2011), which in turn reduces WTC. The relatively limited improvement observed in this item may indicate that the classroom environment did not fully develop into a sufficiently supportive and low anxiety setting for highly performative speaking tasks. As Cao (2011) highlights, situational WTC is strongly influenced by peer cohesion and tolerance toward errors. In classrooms where mistakes are not fully normalized as part of the learning process, performative tasks such as role-play may continue to evoke avoidance behaviours and communicative withdrawal among learners (Kondo & Ying-Ling, 2004).

The statistical analyses indicated differences related to gender, with female participants demonstrating higher WTC scores in the pretest, while male participants showed slightly higher mean scores in the posttest. This difference may be associated with the nature of the picture-based speaking activities, which appear to have particularly encouraged male students' participation, consistent with the notion that targeted interactive interventions can enhance WTC even among initially less confident groups (Harare, 2019; Altnier, 2018). Regarding age, participants older than 20 years had higher mean WTC scores than those younger than 20. Although Aliakbari and Mahjoob (2016) did not find a relationship

between age and WTC, the present study indicates that older participants exhibited greater WTC. However, these findings should be interpreted cautiously due to the limited sample size and unequal subgroup distribution. Alternative factors such as individual learner differences and classroom dynamics may also have influenced the results.

Finally, the paired-samples t-test indicated a significant increase in WTC scores following the eight-week implementation of picture-based speaking activities, with a medium effect size ($d = .048$). These findings may suggest that picture-based speaking activities supported students' classroom communication and participation. In addition, such activities may have contributed to learners' engagement and motivation by providing opportunities for idea expression, small-group collaboration, and guided peer interaction, consistent with previous research highlighting the benefits of visual and interactive learning approaches (Inayah et al., 2019; Sahyoni & Zaim, 2017). From a broader pedagogical perspective, the findings further indicate that AI-supported picture-based speaking activities may function as a form of visual scaffolding that facilitates learners' situational WTC. In relation to MacIntyre et al.'s (1998) WTC model, this suggests that instructional features such as structured visual input and guided speaking support may interact with learners' situational factors, particularly communication anxiety and self-confidence, in shaping classroom communication behaviour.

5. Conclusions

This study investigated the role of eight-week picture-based speaking activities in students' WTC in EFL classrooms. The findings suggest that these activities may have contributed to increases in students' WTC by providing opportunities for classroom communication. From a pedagogical perspective, AI-supported visual materials may facilitate learners' speaking development by reducing the cognitive demands of spontaneous speech production and creating more accessible opportunities for classroom interaction. By providing structured visual scaffolding, such tasks can also promote learners' communicative engagement, particularly in situational classroom contexts where immediate idea generation and participation are required. This suggests that integrating AI-supported visual activities into speaking instruction may enhance the quality of interactional opportunities, especially for learners with lower proficiency levels. Subgroup analyses indicated that male participants appeared to demonstrate relatively higher increases in WTC scores compared to female participants. Similarly, participants aged over 20 tended to report higher WTC scores than younger students. Although the results indicate positive outcomes from picture-based speaking activities, they should be interpreted cautiously, given the study's limitations, such as the limited sample size and absence of a control group. Pedagogically, the study suggests that structured and interactive speaking opportunities may support learner engagement, confidence, and willingness to communicate, highlighting the potential value of integrating visual and interactive activities into language teaching practices.

6. Limitations and Suggestions

While this study contributes to the field by demonstrating the effectiveness of picture-based speaking activities in enhancing WTC, several methodological limitations should be acknowledged. The study involved a small sample and relied on self-reported data within a quasi-experimental design, which may limit the generalisability of the findings. In particular, the sample size of 30 participants drawn from a single department at a single university represents an additional limitation, further restricting the generalisability of the results. In addition, the absence of a control group may limit causal interpretations of the findings. As the study employed a one-group pretest-posttest quasi-experimental design, the observed improvement cannot be attributed solely to the intervention. Alternative factors such as teacher

effect, natural development over time, retest effect, and classroom interaction may also have influenced the findings. The fact that the instructor also served as the course teacher may have introduced a potential teacher effect. Moreover, the use of a pretest-posttest design may involve potential measurement or testing effects. Finally, although AI-generated images were reviewed and standardised through expert feedback, the degree of standardisation may still represent a methodological limitation. Future research could employ larger and more diverse samples, fully experimental designs, and different age groups or proficiency levels to provide a more comprehensive understanding of the impact of picture-based speaking activities.

Regarding practical implications, textbook designers could incorporate speaking activities involving pictures within units, such as using images to support speaking tasks in the introduction or conclusion sections. Additionally, QR codes or links could be included to provide easy access to relevant visual materials, thereby enhancing student engagement and opportunities for communication practice.

Declaration of Conflicts of Interest

The author affirms that they have no conflicts of interest related to this publication.

Declaration of Generative AI Use

During the preparation of this manuscript, ChatGPT, a generative artificial intelligence tool, was used in a limited capacity for language editing purposes, including grammar checking and improving clarity of expression. In addition, as described in detail in the Methods section, the images used during the implementation of the study were generated using ChatGPT. The scientific content, conceptualization, argumentation, data analysis, interpretation of findings, and conclusions were developed entirely by the author. The author assumes full responsibility for the accuracy, integrity, and ethical conduct of the work, including any use of generative artificial intelligence tools.

Ethical Statement

This research involved the collection of data from human participants through a survey. The study was approved by the Ethics Committee of Social and Human Sciences Scientific Research and Publication Ethics Committee at Trabzon University (Approval Number: E-81614018-050.04-2400021757 / Date: 07.05.2024. Only voluntary participants were included in the data collection process.

Author Contributions

The planning of the data collection process, as well as the data collection and analysis, was carried out by Şadıman Hunutlu.

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