



**THE EFFECT OF INTERACTIONAL STRATEGY TRAINING ON PEER
COLLABORATION AND INTERACTION PATTERNS**

Etkileşimsel Strateji Eğitiminin Akran İşbirliği ve Etkileşim Kalıplarına Etkisi

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ABSTRACT

This study aims to examine the impact of interactional strategy training on dyadic interaction patterns during peer interaction. 28 undergraduate students between the ages of 18 and 22 participated in the study. The participants consisted of two groups: the experimental group, which received interactional strategy training, and the control group, which performed the same pair tasks as the experimental group but did not receive strategy training. The study employed a mixed-methods research design collecting quantitative and qualitative data through pre-, post- and delayed-post speaking tasks, self-evaluation forms, and semi-structured interviews. Transcripts of pre-, post-, and delayed-post tasks were analyzed to identify interaction patterns and enumerate the interaction strategies used by the dyads. Analysis of dyadic interaction reveals that training in interactional strategies improves the quality of peer interaction and leads to a shift from non-collaborative to collaborative interaction when performing pair tasks. Analysis of the self-evaluation forms and interviews shows that participants in the strategy group benefited greatly from the strategy training and gained a heightened awareness of their interactional behaviors. Participants also reported improvements in their fluency, interaction skills, strategy use, and affective states such as motivation, confidence, and self-esteem.

ÖZ

Bu çalışma, etkileşim stratejisi eğitiminin akran etkileşimi sırasında ikili etkileşim kalıpları üzerindeki etkisini incelemeyi amaçlamaktadır. Araştırmaya 18-22 yaş arası 28 lisans öğrencisi katılmıştır. Katılımcılar etkileşimsel strateji eğitimi alan deney grubu ve deney grubu ile aynı konuşma aktivitelerini yapan ancak strateji eğitimi almayan kontrol grubu olmak üzere iki gruptan oluşmuştur. Çalışmada, ön test, son test ve geciktirilmiş son test, öz değerlendirme formları ve yarı yapılandırılmış görüşmeler yoluyla nicel ve nitel verileri toplayan karma yöntemli bir araştırma tasarımı kullanılmıştır. Etkileşim kalıplarını ve ikili gruplar tarafından kullanılan etkileşim stratejilerini belirlemek için ön, son ve geciktirilmiş konuşma aktivitelerinin transkriptleri analiz edildi. İkili etkileşimin analizi, etkileşim stratejileri eğitiminin akran etkileşiminin kalitesini iyileştirdiğini ve ikili aktivitelerde işbirlikçi olmayan etkileşimden, işbirlikçi etkileşime geçişi kolaylaştırdığını ortaya koymaktadır. Öz-değerlendirme formlarının ve görüşmelerin analizi, strateji grubundaki katılımcıların strateji eğitiminden büyük ölçüde yararlandığını ve etkileşimsel iletişim konusunda artan bir farkındalık kazandığını göstermektedir. Katılımcılar ayrıca akıcılıklarında, etkileşim becerilerinde, strateji kullanımlarında ve motivasyon, güven ve benlik saygısı gibi duygusal durumlarında da iyileşmeler bildirmektedirler.

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1. Introduction

It is widely acknowledged that much of language learning takes place in the classroom in countries where speakers have little contact with native speakers, and that teacher talk dominates classroom interaction in these classes. Peer interaction stands out as a powerful tool for teachers to maximize student talking time in such contexts (Fernandez Dobao, 2014). However, learners' ability to benefit from peer interaction is strongly influenced by peer social dynamics (Sato, 2017; Sato & Ballinger, 2016) and depends on the specific patterns of interaction that emerge in that particular situation (Naughton, 2006).

Research on interaction patterns has attested that learners who engage in collaborative interactions have greater opportunities for L2 learning than those who form dominant-dominant and dominant-passive interactions (Sato & Viveros, 2016; Storch, 2002). Since the collaborative pattern reflects the use of certain interactional strategies, such as peer-repair, negative and corrective feedback, confirmation checks, requests, and the provision of information (Storch, 2002), equipping learners with these interactional strategies may facilitate the shift from non-collaborative to collaborative interaction.

The literature on interactional strategy training has put forth the effectiveness of strategy training on learner interaction (see Bejarano Levine, Olshtain, & Steiner, 1997; Benson, Fischer, Geluso, Von Joo, 2013; Dao, 2020; Fujii, & Mackey, 2016; Naughton, 2006; Sato, 2013; Xu & Kou, 2011). However, previous research mostly examined the effectiveness of strategy training by quantifying strategy use (Kim & McDonough, 2011; Sato & Lyster, 2012). Furthermore, communication strategy training views the use of strategies as an individual act of learners and fails to take into account the social constructivist nature of communication (Fang, Cassim, Hsu, & Chen, 2018). This critique calls for combining two approaches in peer interaction: a) the interactionist approach, which focuses on how dyads negotiate meaning using interactional moves such as feedback, peer repair, and requests, and b) the socioculturalist view, which is centered around how pairs collaborate and scaffold each other to resolve language-related problems (Fernandez Dobao, 2016). This study addresses these two perspectives together as they complement each other in shaping a healthy collaborative dialogue. To this end, this study aims to make a unique contribution to the existing literature by scrutinizing whether interaction strategies training impacts the level of collaboration among learners during peer interaction. The study is also methodologically rigorous in that it employs a delayed post-test to examine whether the pairs can maintain the pattern of interaction they adopted through strategy instruction

2. Review of the Literature

Peer interaction has a lot to offer in the classroom as is considered beneficial to language learning for a variety of reasons. It supports L2 development (Long, 1995; Sato, 2017); provides opportunities for L2 input, feedback, and production (Garcia Mayo & Pica, 2000); increases student talking time (Long & Porter, 1985); promotes the use of more communication strategies than teacher-student interaction (Fernández Dobao, 2012; Pica, Lincoln-Porter, Paninos, & Linnell, 1996; Toth, 2008); and fosters as much authentic interaction as possible in L2 settings (Garcia Mayo & Azkarai, 2016; Philp & Tognini, 2009).

One can tell from experience that not all peer interaction settings create learning opportunities, as the exploitation of the benefits of peer interaction is subject to certain conditions. Sato and Ballinger (2016) emphasize that the language level of learners, the degree of collaboration between interlocutors, and the quality of feedback are major mediators of student interaction efficiency. Of the three factors, the degree of collaboration is more pronounced since research has shown that the degree of collaboration and attitude toward the task are more important factors in determining learning outcomes than factors such as proficiency (see Choi & Iwashita, 2016; Sato & Viveros, 2016; Storch & Aldosari, 2013; Watanabe & Swain, 2007). Therefore, studies on interaction patterns have gained prominence, enabling a more comprehensive definition of existing patterns and the emergence of new ones.

Damon and Phelps (1989) initially proposed three types of peer interaction: tutoring, cooperating, and collaborating. Storch (2002) expanded this to four: dominant/passive, expert/novice, and collaborative patterns. Storch (2002) referred to terms "mutuality and equality" while distinguishing these patterns. Storch (2002) defined equality as the equal contribution and turn taking of both interlocutors, while defined mutuality as the degree of engagement in the task and the conversational partner's contribution.

Dyads in the “dominant-dominant” pattern are equally involved in the task but fail to reach mutual understanding through the exchange of opinions. Learners in the dominant-dominant pattern show a reluctance or inability to respond to their partners' contributions (Watanabe & Swain, 2007). This pattern is also characterized by negative attitudes and insistence on speakers' own idea (Storch, 2002; Zheng, 2012). In the "dominant-passive" pattern, one of the interlocutors assumes authority and dominates the conversation while the other remains passive. The interaction exhibits low mutuality because the passive side contributes little to the interaction, and the dominant side has little interest in sharing the floor (Storch, 2002). In the "expert-novice" pattern, the expert dominates and controls the talk without being authoritarian (Storch, 2002), tries to help the novice learner (Dao, 2017; Zheng, 2012), and helps the novice learn (Watanabe & Swain, 2007). The novice, on the other hand, accepts expert feedback and participates by confirming or repeating the expert's statements (Storch, 2002). In the collaborative pattern, both interlocutors engage and participate equally, exchange ideas, request and provide information, and make decisions together (Storch, 2002). The characteristics of collaborative talk include demonstration of shared authority (Friginal, Lee, Polat, & Roberson, 2017), critical and constructive response to the partner's opinions (Watanabe & Swain, 2007), topic extension (self-initiated and other-initiated topics), turn taking, follow-up questions, listener support and involvement, and overlaps (Galaczi, 2008).

Watanabe and Swain (2007) later extended Storch's (2002) framework by outlining an expert-passive pattern. The expert dyad acts as the skilled peer and encourages the partner to take part in the conversation. However, the less skilled interactant shows reluctance to engage in the conversation. Tan, Wigglesworth, & Storch (2010) identified another pattern called "cooperative", which was found only in computer-mediated communication. Dyads forming this pattern contributes equally to the conversation but do not engage with what the other is saying. Instead, they focus on constructing or correcting their own utterances without initiating turns. Collaborative and expert-novice orientations fall within Storch's (2002) umbrella of collaborative orientations, while the dominant-passive and dominant-dominant patterns are classified as non-collaborative. Literature has mainly emphasized the virtue of the collaborative pattern over the others since interaction between learners in collaborative and expert/novice patterns shows more knowledge transfer and learner uptake (Chen, 2018; Storch, 2002; Storch & Aldosari, 2012; Watanabe & Swain, 2007; Wigglesworth & Storch, 2009). It was also found that collaborative dyads tend to obtain higher scores on speaking tests as they possess higher conversational ability (Galaczi, 2008). Furthermore, collaborative peers have been shown to benefit from their interactions regardless of the language level of their partners (Watanabe & Swain, 2007).

The above cited benefits of collaborative interaction highlight the importance of encouraging students to work more collaboratively. Sato & Viveros (2016) note that one way to influence pair dynamics and feedback efficiency is to raise learners' awareness of both their and their partner's utterances. When this is done through interactional strategy training, it has the potential to elevate learner engagement (Fujii et al., 2016), especially in terms of cognitive, social, and emotional aspects (Dao, 2020). Studies on strategy training have shown that strategy instruction leads to greater use of strategies in interactions (Fujii et al., 2016; Naughton, 2006; Xu & Kou, 2011), improves fluency and the number of negotiation moves (Nakatani, 2005), and increases the level of engagement and quality of peer interaction (Bejarano et al., 1997; Xu & Kou, 2011).

Studies on interaction patterns are mostly limited to the analysis of learner interaction in text construction tasks, without focusing on the dynamicity of learner interaction (e.g., Storch, 2002, Storch & Aldosari, 2013). As an exception, Chen (2018) examined whether interaction patterns change over time and found a shift from non-collaboration to collaboration. Although Chen (2018) suggests that task repetition may be a factor leading to this change, it is difficult to determine what is causing this shift toward collaborative interaction without an intervention with a control group. Therefore, the present study aims to examine the dynamicity of interaction patterns, if any, as a result of interactional strategy training by conducting a pre-test, post-test, and delayed post-test with control and experimental groups. Therefore, the study addresses the following research questions:

1. Does the interactional strategy training have any impact on the patterns of interaction formed by the dyads?
2. Is there a statistically significant difference between the use of interaction strategies by participants in the experimental and control groups in the pre-, post-, and delayed post-tests?
3. How do the participants perceive the effectiveness of interactional strategy training in enhancing their collaboration?

3. Methodology

3.1. Research Design

This quasi-experimental study employed a comparison group pre-test/post-test design to explore the impact of interaction strategies training on learners' pair dynamics and collaborative behaviors. For this purpose, the participants in two intact classes were randomly designated as control and experimental groups.

3.2. Setting & Participants

Twenty-eight undergraduate students enrolled in an English preparatory program at a state university in Turkey served as the participants of the study. Since disparities in learners' proficiency levels might influence interaction patterns (Dao & McDonough, 2018; Storch & Aldosari, 2013), the participants were administered the Oxford Quick Placement Test (2004) to ensure homogeneity. After excluding three B1 participants, the remaining 28 A2 level students were assigned as experimental ($N=14$) and control ($N=14$) groups. Each group contained two males and twelve females. To account for confounding variables, both groups were drawn from classes that used identical syllabus, coursebooks, and grading system.

The participants pursued an integrated skills curriculum, in which speaking is covered only through speaking sections in their coursebook. As extracurricular activities have an effect on students' speaking skills (Coşkun, 2016; Hyland, 2004), the participants were given a background survey to collect information on the amount of time they spend for English-related activities outside the class including watching movies/TV shows, and listening to podcasts/music. The analysis of the survey revealed no differences in the amount of time spent on extracurricular English activities between groups.

3.3. Data collection Tools

A pre, post and delayed post task was used to explore the effectiveness of interactional strategy training.

Decision-making tasks were found to be ideal for data collection because they do not impose certain interaction patterns as in jigsaw and information gap tasks (Pica et al., 1993). Four tasks were initially chosen for the pilot test. The tasks "Deserted Island" and "Your Room" in Klippel (1984) were adapted, while "Burning House" and "The Lucky Ones," were designed by the researchers. All four tasks were isomorphic decision-making tasks that presented a problem and required item selection and reasoning for selection (see Appendix 1 for a sample pair-task). Two Ph.D. holders in ELT checked the content, construct, and face validity of the tasks. The tasks were then pilot tested with 12 learners. The task "Burning House" was excluded from the study because it differed from the other three tasks in terms of completion time, difficulty, and pattern consistency.

Semi-structured focus group interviews and self-evaluation forms were also created to further examine the utility of strategy instruction. The self-evaluation form, consisted of two main sections: a three-point scale that assessed the quality of interaction in peer tasks, and an open-ended section that explored the participants' strengths, weaknesses, and objectives for future tasks. Semi-structured interviews were also conducted with all members of the experimental group as they present a more comprehensive picture of the participants' beliefs and experiences coupled with self-reflection forms.

3.4. Strategy Selection

Storch's (2002) description of the characteristics for collaborative interaction played the greatest role in determining the target strategies. Storch (2002) postulates that the collaborative interaction entails turn taking in question-answer sequences, offering and receiving assistance, paraphrasing the utterances of one another, elaborating on comments, and providing positive and negative feedback. Based on this, the following interactional strategies were selected for strategy training in the present study: (1) extending conversation, (2) appealing and giving assistance, (3) giving feedback, (4) requesting and giving confirmation and clarification. They were then divided into lessons for 8 consecutive weeks as week 1) asking for opinion, 2) giving opinion, 3) asking for help, 4) giving help, 5) giving positive feedback, 6) giving negative feedback, 7) confirmation requests, 8) offering clarification and confirmation. Then the expressions to be introduced for each strategy type was determined.

3.4. Strategy Training Sheets

Intervention materials were created to raise the participants' awareness of the targeted interactional strategies at each session, promote their use, and foster collaboration through the use of the strategies (see Appendix 2 for a sample). The training sheets were designed in accordance with Howard and Major's (2004) guidelines for designing effective ELT materials. The strategy training for each week included four main steps of Strategy Based Instruction (Rubin, Chamot, Harris, & Anderson, 2007): awareness raising, presenting and modeling the strategies, practice, and evaluation. To ensure that each stage was followed, the researchers developed lesson plans that were tailored to the objectives of each session. The essential components of a lesson plan, such as allocated time, objectives, instructions and materials (Cicek & Tok, 2014) were included in each plan.

3.5. Procedure

Data were collected during regular class hours in the fall semester of 2019-2020 academic year. The research procedure was outlined in figure 1.

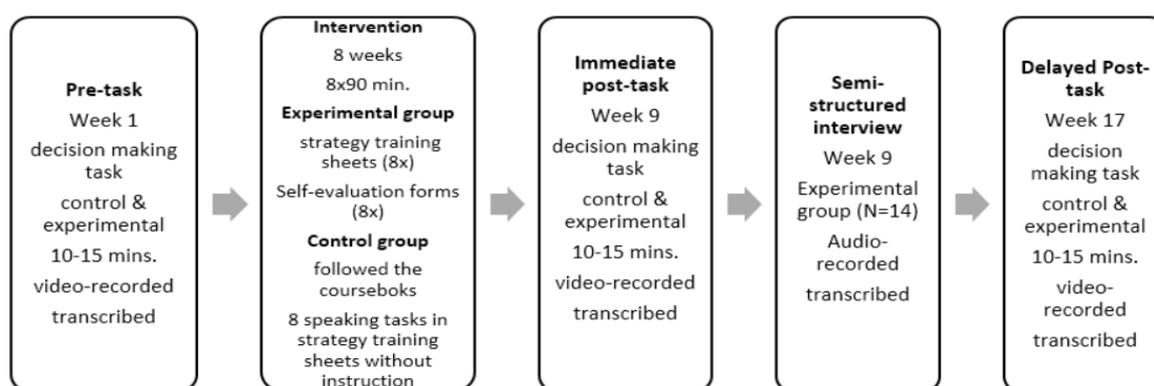


Figure 1. Summary of the research procedure

The participants were first given a speaking task parallel to the pre-task to make them familiar with the task type. The pre-task was then administered to randomly formed dyads in both the control and experimental groups. To minimize background noise from the student talk, the task was assigned to a maximum of 2 dyads at a time. To identify verbal and nonverbal cues, interpret unclear speech, and distinguish overlapping speech, the activities were videotaped (Richards, 2003). Following the completion of the pre-tasks, the treatment commenced. Over the course of eight weeks, the experimental group received eight 90-minute sessions of interactional strategy training. For instruction, the teacher researcher used training sheets and lesson plans. Following the presentation of the strategies and controlled practice, participants were given pair tasks to practice the strategies, and self-evaluation forms to assess their task performance and ability to use the strategies. The control group, on the other hand, followed regular English classes. To reduce the practice effect, they only completed the pair tasks given to treatment group after instruction, without prior strategy training. After training, both groups took the post-test, using the same procedure as the pre-test. All members of the treatment group were interviewed about their experiences with the training. During the interview, respondents were encouraged to elaborate on their responses through checking/reflecting, follow-up, structuring, and probing questions categorized in Richards (2003). Both groups were given a delayed post-task 8 weeks after training, using the same approach as the pre-test and the immediate post-test.

3.6. Data analysis

The data analysis began with the transcriptions of the pre-, post- and delayed post-tasks using conventions required for data analysis as suggested by Ellis & Barkhuizen (2005) and Richards (2003). Transcription conventions that assist the identification of interaction patterns were adopted from Richards (2003). Each line was numbered to facilitate data processing and presentation of results. The original line numbers were retained in the excerpts in the findings section.

The transcripts of 42 dyadic interactions were first examined for patterns of interaction identified by Storch (2001), Galaczi (2008), Watanabe & Swain (2007), and Tan et al. (2010). Patterns of interaction in the pre-, post-, and delayed post-tasks were determined based on 1) pattern of contribution; 2) decision-making behavior; 3) the nature of assistance; 4) discourse and linguistic features (Storch, 2002). Interactional strategies in the transcripts were enumerated and coded using ATLAS.ti. For the reliability of the analysis, a second coder identified the interaction patterns and strategies for the transcripts of eight tasks, which represented about 20% of the data. Inter-rater agreement was 100 % for the patterns of interactions and 91% for interaction strategies. The data collected via the interviews and self-evaluation forms were analyzed using inductive content analysis based on the steps defined in Creswell (2015). The responses were analyzed through open coding.

4. Findings

4.1. The Effect of Strategy Training on The Interaction Patterns

To determine whether interactional strategy training had an impact on the dyads' interaction patterns, the patterns formed by dyads in pre-task, immediate post-task, and delayed post-task were identified. The patterns formed by the dyads in the experimental group are presented in Table 2 with pseudonyms to protect participant anonymity.

Table 2. Interaction patterns formed by the dyads in the experimental group

<i>Dyads</i>	<i>Pre-task</i>	<i>Post-task</i>	<i>Delayed Post-task</i>
Betty - Chloe	Dominant / Passive	Collaborative	Collaborative
Holly - Maya	Dominant / Passive	Collaborative	Collaborative
Kai - Iris	Expert / novice	Collaborative	Collaborative
Mina- Sally	Collaborative	Collaborative	Collaborative
Fiona - Millie	Dominant / dominant	Collaborative	Collaborative
Victor- Daisy	Dominant / Passive	Expert / novice	Expert / novice
Faith - Dylan	Dominant - dominant	Blend	Collaborative

Overall, Table 2 shows an obvious transition to collaborative interaction from the pre-task to the delayed post-task. In the pre-task, the dyads had a non-collaborative orientation, and mostly demonstrated unequal participation in patterns such as dominant-passive, and showed low mutuality in patterns such as dominant-dominant. An excerpt from Betty and Chloe's pre-task interaction illustrates a typical dominant-passive interaction:

Excerpt 1. Chloe & Betty – Pre-task

- 51 Chloe: a::nd desk ... double bed ... television ... chair...
 52 Betty: chair... first of a::ll. I think... You don't need to buy a coffee table.
 53 Chloe: yes, yes
 54 Betty: just a minute (.2) I like, I love drinking coffee
 55 Chloe: yes
 56 Betty: so, we should bu::y?
 57 Chloe: but I think we don't need bu::y ... it because because we put ... we can put it
 58 table
 59 Betty: on [the table, yeah]
 60 Chloe: [another table]
 61 Betty: yes, we can... put it on the table.
 62 Chloe: yes
 63 Betty: OK the::n we can buy bedside lamp ... because if we want reading ... if we
 64 want to read a book, we can light and we can read a book.
 65 Chloe: yes, [you're right]
 66 Betty: [I will write it]

In excerpt 1, the contributions of the dyads are not balanced. While Betty initiates turns and offers ideas (lines 52, 63), Chloe's contributions consist of brief responses and confirmations of Betty's statements (lines 53, 55, 62, 65). Betty's self-directed utterances dominate the interaction (lines 54,66), and she shows no effort to include Chloe in the conversation, which shows low mutuality. After voicing her views, Betty makes the decisions without consulting Chloe (lines 63,66). Chloe, on the other hand, is largely passive and follows Betty, with the exception of line 57, where she expresses her own viewpoint. As seen in lines 59 and 61, Betty's feedback on the Chloe's error "put it table" is ignored by Chloe and does not result in repair, suggesting that the interaction between Betty and Chloe exhibits characteristics of a dominant-passive interaction.

Despite a predisposition toward non-collaboration in the pre-task, five of seven pairs worked collaboratively in the post-task. The dyads that did not adopt a collaborative pattern in the post-task also switched to patterns with greater collaboration. In addition, the interaction of a dyad exhibited characteristics of both a dominant/dominant and collaborative dyad, and thus, named as a "blended interaction" (Galaczi, 2008). An example of dramatic shift from non-collaborative to collaborative dialogue can be seen in the interaction between Victor and Daisy, who established a dominant/passive pattern in the pre-task.

Excerpt 2. Victor & Daisy - Immediate Post-task

- 135 Victor: but ... these two item.. axe and knife works the same in the same way.
136 Daisy: erm...
137 Victor: you understand me?
138 Daisy: I understand, but we choose a knife?
139 Victor: yes, we choose a knife .. so: .. again choose a different kind of knife
140 unnecessary .. would be unnecessary. What is your opinion?
141 Daisy: you could be right, but I erm ... I don't think so:: ... because an axe erm ... is is more
142 important than a knife ... because maybe .. maybe we want to cut
143 plants .. to:: ... *yakmak* (to make fire) I don't I don't remember ... this word.
144 Victor: to:: to make a fire.
145 Daisy: to make a fire ... erm .. I think erm .. an axe is more important than a knife.
146 Victor: actually ... when I look .. your opinion ... in your erm... perspective ... this could be::
147 you're right because erm .. to make a fire: a knife is not enough ... [to cut]
148 Daisy: [to cut] plants
149 Victor: ye::s and .. I.. didn't .. I didn't think in your way.
150 Daisy: erm .. so:: we: we can change.

The interaction between Victor and Daisy is characterized by a high degree of mutuality and equality with no signs of dominance. Both interlocutors exchange turns, hold the floor equally, and initiate or extend topics (lines 135, 138, 139-143, 144-146). The dyads also solicit viewpoints (line 141) and exchange information (lines 141, 145, and 146), suggesting collaboration in the decision-making process. In addition, disagreements are resolved through dialogue (lines 138-149). Their roughly 15-line discussion demonstrates how intensely the dyads engage with each other's contributions. The quality of interaction is further enhanced by the speakers' extensive use of interactional strategies. It includes comprehension checks (line 137), confirmation requests (line 138), asking for assistance (line 143), offering help (line 144), asking for opinion (line 140), giving opinion (lines 141, 145, 147), and positive feedback (lines 139, 141, 147, 149).

The interaction patterns in the delayed post-task demonstrate that participants could maintain the level of collaboration they reached in the post-task with one more collaborative dyad (Faith - Dylan), even 8 weeks after the strategy training. The analysis of the interactions shows that the conversations greatly improved in terms of the balance of their contributions, collaborative decision making, efforts to reach a mutual understanding, role reversal between listeners and speakers, and the use of strategies to resolve communication breakdowns. Millie and Fiona, who were both dominant in the pre-task, were among the dyads that adjusted their interactional behavior to a great extent, and could retain the gains made during the training.

Excerpt 3. Millie & Fiona – Pre-task

- 38 Millie: you need to it, but we study English, we don't it .. we don't need it.
39 Fiona: I think we: need it because some erm... some.. small clothes ... that we, that
40 we use:: use, maybe:: we can use it and put it [in drawers]
41 Millie: [I think], it is interesting .. way
42 Fiona: I think ((writes the Turkish meaning on the sheet)) I know.. like that.
43 Milie: *drawers şey değil mi, çizim, tablo?* (don't drawers mean drawing, painting?)
44 Fiona: I [gu]
45 Milie: [don't] Turkish
46 Fiona: OK
47 Milie: sofa, wardrobe, [television]
48 Fiona: [bookshelf]
49 Milie: erm.. maybe:: we have:: we need to have a single bed.

Excerpt 4. Millie & Fiona - Delayed post-task

- 112 Millie: yes I agree with you. ((Fiona is writing)) (2.0) another one is farmer.
 113 Fiona: a farmer ... umm...
 114 Millie: umm I think ... this job make us live healthy thanks to .. because they grow up ...
 115 vegetables ... and fruits //fruch// ... organic... so: our healths more (2.0) can you
 116 help me?
 117 Fiona: umm you mean that we will get better with healthy foods .
 118 Millie: yes
 119 Fiona: like vegetables fruits.
 120 Millie: yes ... they occur thanks to a farm ... so I think we should choose one.
 121 Fiona: I think umm... you're right ... maybe: our erm .. solid or soil?
 122 Millie: soil?
 123 Fiona: it's like (3.0) ((writes the on the sheet))
 124 Millie: yes

As can be seen in excerpt 3, the interaction between Millie and Fiona in the pre-task lacks mutuality. The misunderstanding stemming from the confusion between "drawer" and "drawing" leads to a communication breakdown, which is left unresolved (lines 42-46). The interactants interrupt each other far too frequently, yet not to provide constructive criticism or recognition (lines 45, 48). Both speakers introduce new topics without elaborating on the previous one (lines 47, 48, 49), which hampers cohesion. The dyads are preoccupied with their own contribution rather than listening and responding to their partner. In contrast, in the delayed post task, Fiona and Millie collaborate much more to make joint decisions and contribute equally by taking turns being both a listener and speaker. Salient features of a collaborative talk become more evident in the speech. Millie and Fiona acknowledge each other's opinions by providing positive feedback in the form of acknowledgement tokens (lines 112, 118, 120, 124) and extend on them (lines 119-121). Unlike the pre-task, they give opinions (lines 114, 120, 121), ask for help (lines 115-116, 121), give help (lines 117, 119), and ask for clarification (line 122) to resolve communication breakdowns.

In order to account for some confounding factors that might influence group dynamics such as time, age and improved proficiency, the control group was also given pre, post and the delayed post-task. The results are presented in Table 3.

Table 3. Interaction patterns formed by the dyads in the control group

Dyads	Pre-task	Post-task	Delayed post-task
Ann - Ollie	Dominant / Dominant	Dominant / Dominant	Dominant / Dominant
Blake - Bruce	Collaborative	Dominant / Passive	Collaborative
Macy - Shea	Dominant / Dominant	Collaborative	Dominant / Dominant
Amy - Matt	Expert / Passive	Expert / Novice	Expert / Novice
Gwen - Sarah	Expert / Novice	Collaborative	Collaborative
Mary - Bella	Dominant / Dominant	Dominant / Dominant	Expert / Novice
Sofie - Zadie	Dominant / Passive	Dominant / Passive	Expert / Passive

As seen in Table 3, the dyads interacted primarily in a non-collaborative manner in the pre-task, as in the experimental group. The dominant interactants were in the majority. Eight weeks after the pre-task, three dyads maintained the dominant/dominant and dominant/passive patterns. Two of the dyads switched from the dominant/dominant and expert/novice patterns to a collaborative interaction. In the delayed post-task, three dyads remained non-collaborative, while four dyads adopted collaborative and expert/novice patterns. None of the non-collaborative dyads (dominant/passive and dominant/dominant) were able to form a collaborative interaction in the post-task. The collaborative pairs in the delayed post-task were either already collaborative in the pre-task (Blake/Bruce) or expert/novice (Gwen/Sarah), implying that the transition to collaboration in the control group was rather slow compared to the experimental group. In addition, two dyads (Macy/Shea, Blake/Bruce) in the control group switched back and forth between collaborative and non-collaborative patterns, suggesting an unstable transition. In summary, although some dyads in the control group worked more collaboratively in the post- and the delayed post-task, it was more evident in the strategy group since all dyads were able to adjust their interaction to a more collaborative end, regardless of what their initial pattern was.

4.2. The Effect of Strategy Training on the Interactional Strategies

To further investigate the effectiveness of strategy training, quantitative analysis was conducted for interactional strategies. After confirming that the assumptions of normality and linearity were not violated, a descriptive analysis was performed. The overall use of strategies by the groups is shown in Table 4.

Table 4. Descriptive statistics for the strategy use of control and experimental groups

Tasks	Groups	<i>N</i>	<i>M</i>	<i>SD</i>
Pre-task	Experimental	7	90.57	17.24
	Control	7	77.57	34.04
Post-task	Experimental	7	179.28	52.77
	Control	7	95.28	31.49
Delayed post-task	Experimental	7	183.57	73.82
	Control	7	102.14	37.89

The experimental group employed nearly twice as many interactional strategies ($M = 179.28$, $SD = 52.77$) in the post-task, while the increase in the control group is less pronounced ($M = 95.28$, $SD = 31.49$). In the delayed post-task, which was administered eight weeks following the intervention, both the experimental ($M = 183.57$, $SD = 73.82$) and the control group ($M = 102.14$, $SD = 37.89$) employed a greater number of strategies than in the post-tasks. These suggest that both groups exhibited progress; however, the degree of increase in strategy utilization in the experimental group dyads is substantially greater.

A 2x3 mixed ANOVA was also conducted to examine whether the interactional strategy training had a significant impact on the participants' strategy use across three time intervals. The assumptions of homogeneity of variances were tested and confirmed using Levene's Test and Mauchly's Test of Sphericity.

Table 5. Within subject effects for the control and the experimental group

Source		Type III Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	Sig.	Partial Eta Squared
time	Sphericity Assumed	29486.61	2	5675.88	10.54	.001	.468
time*group	Sphericity Assumed	11351.76	2	5675.88	4.05	.030	.253

Within-subject effects for the control and experimental groups are displayed in Table 5. The main impact of time on strategy use was significant $F(2,24) = 10.54$, $p = .001$, with a large effect ($\eta^2 = .46$), which indicates a significant shift in strategy use throughout the whole sample. This effect was qualified with a significant time and group (experimental/control) interaction effect, $F(2,24) = 4.05$, $p = .030$, $\eta^2 = .25$. This finding reveals that the experimental and control groups differ in strategy use in the three testing times, and that the experimental and control groups change in different ways. Figure 2 depicts the direction of the change in strategy use in both groups.

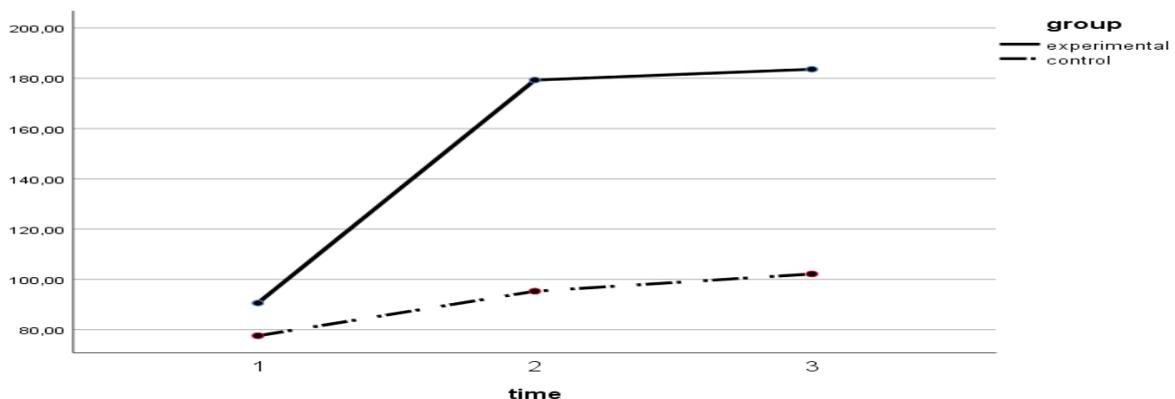


Figure 2. Strategy use by the experimental and the control group over three testing periods

Overall, there is a noticeable sustained increase in strategy use in the control and experimental groups although they are not entirely parallel. The dramatic increase in the experimental group from pre to post-test shows that the strategy group achieved substantially greater improvements in strategy use than the control group. Although not very large, an increase in the strategy use in the delayed post-task is also observed in both groups. Post-hoc pairwise comparisons were also performed to provide statistical support for the results presented by the above line chart, and to determine where the variation in strategy use over time lies.

Table 6. Pairwise comparisons of strategy use by control and the experimental group

Group	(I) time	(J) time	Mean Difference (I-J)	Std. Error	Sig. ^b	95% Confidence Interval for Difference	
						Lower Bound	Upper Bound
experimental	1	2	-88.71	22.93	.008	-144.82	-32.601
		3	-93.00	31.42	.025	-169.90	-16.09
	2	3	-4.28	27.47	.881	-71.51	62.94
control	1	2	-17.71	5.58	.019	-31.38	-4.04
		3	-24.57	4.36	.001	-35.26	-13.88
	2	3	-6.85	8.83	.467	-28.46	14.75

Table 6 displays a significant increase in the use of strategies in the experimental group from time 1 to time 2 ($p = .008$, Cohen's $d = 2.25$) and from time 1 to time 3 ($p = .025$, $d = 1.73$). The increase from post-test to delayed post-test is not significant ($p = .881$, $d = .05$). These data suggest that participants who received strategy training made significant overall improvement in strategy use from pre-test to post-test and delayed post-test. In the control group, significant increase was found from time 1 to 2 ($p = .019$, $d = .53$) and from time 1 to 3 ($p = .001$, $d = .70$) with a moderate effect size. The effect sizes indicate much greater progress in the use of strategies in the experimental group.

Average task duration and word counts in the dyadic interactions also reflect the higher increase in cooperation and strategy use of the participants in the experimental group. As can be seen in Table 7, the dyads in the experimental group talked longer and used more vocabulary in the post-task and the delayed post-task compared to the control group. In summary, strategy training may have contributed to an increase not only in strategy use, but also in speech production and duration. Students who received strategy training employed more strategies, sustained conversation longer, and generated more vocabulary.

Table 7. Average task duration and word count by groups.

Groups	Pre-task	Post-task	Delayed post-task
Control	12 min./1077 words	13.88 min./1400	13.14 min./1448
Experimental	13.42 min./1368 words	18.57 min./2168	18.71 min./2128

4.3. Learner Perceptions on Strategy Training

Post sessional peer evaluation forms, and the post intervention interviews provide qualitative data on learners' experiences and perceptions as well as support for the quantitative data. First, descriptive statistics for the questionnaire in the self-evaluation form were computed. Mean scores for the first and the last week of the intervention are presented in Table 8 for comparison. Table 8 shows that participants had mixed opinions about their performances on the first week's task. More than half of the respondents (64.3%) indicated that they participated equally in the conversation and actively contributed (57.1%). However, participants were not entirely satisfied with the mutuality of interaction, as almost half of them either somewhat agreed (35.7%) or disagreed (7.1%) with item 2. On the other hand, participants found their performances in week 8 to be very satisfactory in terms of equality and mutuality compared to the first week. All respondents indicated that they and their partner contributed to the interaction equally and mutually and most perceived that their interaction exhibited more engagement (92.9%), more peer support (items 5 and 6), and less authoritarian behavior (items 7 and 8), suggesting that participants found the strategy taught those weeks to be equally effective.

Table 8. Learner perceptions of the tasks in week 1 and week 8

Items	Agree		Partially Agree		Disagree	
	Week1	Week8	Week1	Week8	Week1	Week8
1. My partner and I contributed to the talk in a balanced way.	64.3	100	28.6	0	7.1	0
2. My partner and I could exchange our ideas mutually and understand each other.	57.1	100	35.7	0	7.1	0
3. I could participate in the conversation actively.	57.1	78.6	42.9	14.3	0	7.1
4. I contributed useful ideas during the task.	42.9	64.3	50	21.4	7.1	14.3
5. I encouraged my partner to contribute more to the talk	50	64.3	28.6	14.3	21.4	21.4
6. My partner encouraged me to contribute more to the talk.	50	78.6	35.7	21.4	14.3	0
7. My partner dominated the talk while I mostly stayed passive.	7.1	0	35.7	7.1	57.1	92.9
8. I dominated the talk while my partner mostly stayed passive.	14.3	0	21.4	7.1	64.3	92.9
9. Although we both contributed to the talk equally, we could not fully engage with each other's contribution.	7.1	0	28.6	7.1	64.3	92.9
10.I could use the instructed interaction strategy during the task.	64.3	64.3	35.7	35.7	0	0
11.I could participate in the conversation more using interaction strategies.	71.4	71.4	28.6	21.4	0	7.1

The analysis of the second part of the peer evaluation form also reveals the positive change that the learners had undergone. In the first weeks of the training, participants mentioned that they struggled to maintain the conversation. Some participants expressed dissatisfaction with frequent disagreements during the task, stating that these led to communication breakdowns. They also placed most of their attention on their own contribution and rarely, if ever, commented on their partner's contribution. Over the weeks, the dyads not only learned more about interaction strategies, but also developed an awareness of their interactive behavior and that of their partners. They were able to observe their contribution to the interaction and could adjust their behavior, resulting in more collaborative dialogues. The following statements illustrate their progress:

Day by day, we understand each other and talk more. When one of us do not know a word, the other helps. I think I could participate in the conversation more by using the strategies. (Holly)

My partner asked me questions when she did not understand me, and I could express myself very well. As the time passes, I even paid attention to my partner's body language to check if she understands me or not. I will use strategies more effectively when I struggle talking. (Betty)

Analysis of the semi-structured interviews with the intervention group supports the findings from the self-evaluation forms in that the strategy training was effective in enhancing collaboration and strategy use. Four main themes emerged from the content analysis: "first impressions of the training", "evaluation of task performance before the training", "benefits of interactional strategy training", and "reasoning behind strategy choices". The first theme encompasses the participants' first impressions of the training, which they defined as exciting, challenging, and beneficial. The respondents later evaluated their pre-test performance. Recurring sub-themes were "limited strategic ability", "poor speaking performance", "non-collaboration" and "affective problems". Most participants indicated that they either did not know the strategies or were unable to use them prior to training adding that they could not speak much or maintain the conversation. Regarding their collaborative behavior, the participants stated that they were self-focused on their own contribution, and either dominant or passive. The following excerpt shows how Millie perceived her interactional behavior before the training:

I didn't know what it meant to participate actively, I was just trying to dominate the talk without listening to my partner. I did not care what she was saying. (Millie)

The most recurring theme in the interviews was the benefits of strategy training. Sub-themes and the codes are presented in Figure 3.



Figure 3. Interview findings on the benefits of the strategy training

The majority of participants expressed satisfaction with the improvement in their speaking skills, not only in their interactions with peers, but also in speaking English in general. For them, the training contributed to their fluency and self-expression. They stated that they started to work more collaboratively and interact equally and mutually. When asked to expound on their collaboration, the participants indicated that they began to assist their partner, and asked for and received help more frequently. Participants specifically noted that they became more aware of the importance of listening as much as speaking during their conversations. They also noted that they had not paid much attention to their conversational partner and had instead focused on their own contribution before the training. The following comments from Betty show her realization after the training:

I stopped insisting on my own opinion and started to listen to my partner (laughs). One thing I never forget in the pre-task is that when my friend said "we should get a table", I just said "why", no why". You know, I did not say anything else, did not listen to her... so I really noticed my improvement. Now, what she says is more important for me.

Through the training, the majority of the participants claimed that they were able to better balance their contributions, initiate and sustain conversations, scaffold each other, and negotiate meaning. They also reported increased confidence and motivation when speaking. The analysis also suggests increased metacognitive awareness with skills such as monitoring, evaluating, and adjusting speech during interaction.

I started talking to my partner without fear, as if we were really chatting together, away from the anxiety of speaking a foreign language. (Daisy)

As we were establishing a dialogue, we learned to acknowledge our partner's opinion before disagreeing, and I realized that we should do the same in Turkish. We don't usually do it in Turkish either. (Chloe)

The fourth theme involved reasoning for strategy choices. The respondents based their choices heavily on their communicative needs during the interaction. It is clearly expressed that strategies such as asking for opinion and giving opinion, and positive feedback were used more because participants needed them in their interactions, which required an exchange of opinions. Similarly, the strategies that were used less were mainly attributed to a lower need.

4. Discussion

This study sought to explore whether the introduction of interactional strategies has an impact on learners' collaboration. It was found that interactional strategies training improved the quality of peer interaction and resulted in a shift from non-collaborative to collaborative interaction when performing pair tasks. Learners' dyadic interactions underwent a transformation process from an interaction in which dyads did not engage in each other's speech, focused on their own contribution, and were primarily self-centered, to the one that is characterized by high levels of engagement, exchange of ideas, turn-taking, and extension of utterances. The finding supports evidence from the previous studies (Bejarano et al., 1997; Dao, 2020; Fujii et al., 2016;

Naughton, 2006; Xu & Kou, 2011), which found improvements in the quality of interaction as a result of strategy training, although no direct focus was placed on interaction patterns in these studies. Even though the shift toward collaboration is more evident in the experimental group, some dyads in the control group also showed improvement in collaboration over time. Drawing from Chen's (2018) study, the increased collaboration in the control group could be explained by the improved proficiency in time and the practice effect.

One factor that facilitated the shift to collaboration in dyadic interaction could be the increased awareness of interaction as a social act. Findings from the interviews and self-reflection forms indicate that learners' heightened awareness of effective collaboration does not just involve their individual performance, but also involves co-construction of interaction with mutual effort. This implies that interactional strategy training is helpful in building Interactional Competence (IC). It equips learners with heightened awareness of conversational partners, which is a distinctive feature of IC, as Young (2008) asserts. Furthermore, participants' willingness to engage in collaborative interaction and use interactional strategies could be explained by the notion of "collaborative mindset", which is defined as an attitude toward the task and the interlocutor (Sato & Viveros, 2016). Accordingly, a more collaborative interaction mindset lends itself to more engagement. From this perspective, the training may have helped learners develop a collaborative mindset through which they can be more aware of what their partner says, and work mutually during the interaction.

As for the findings regarding strategy counts, the experimental group outperformed the control group in the use of interactional strategies in the post- and the delayed post-task. This corroborates the findings of numerous studies (see, e.g., Lam & Wong, 2000; Naughton, 2006; Rabab'ah, 2016) which report more frequent strategy use after trainings. It is important to note that the strategy group almost doubled the number of strategy uses, compared to a 23% increase in the control group. This difference can be attributed mainly to the knowledge of the strategies introduced in the training sessions. In a nutshell, answering the call for studies to explore the sustainability of positive impact of strategy training through delayed post-tests (Dao, 2020), this study adds to the literature that long-term effect of the training can be observed in dyadic interactions even two months after the training, and with more strategies and collaborative moves.

As revealed by the reflection forms and interviews, participants were not equipped with the strategies for maintaining effective communication and dealing with communication breakdowns before the instruction. With the help of the training, they not only became aware of these strategies but were also able to grasp their importance for collaboration, which seemed to motivate them to naturally apply these strategies to create collaborative dialogue. The effect of the training on breaking down psychological barriers to speaking may also have contributed to this motivation. Although peer-interaction was found to be less intimidating than student-teacher or learner-NS interactions (Sato, 2013; Sato & Ballinger, 2016; Tulung, 2008), respondents still reported their speech anxiety and hesitation before the training. This implies that peer interaction alone is not sufficient to lower the affective filter and promote fluency. Therefore, consistent with the findings of previous research (see Ellis & Barkhuizen, 2005; Nakatani, 2005; Sato & Lyster, 2012), it was found that strategy knowledge increased the efficiency of peer interaction and facilitated L2 fluency.

A notable finding in the study is that the effectiveness of strategy training on strategy counts should not be measured solely by strategy counts. It is found that the participants use strategies when they feel that it is necessary to complete the task and communicate effectively. Considering that the occurrences of interactional features differ among task types (Dao, 2020; Gass et al., 2005), and that interlocutor proficiency and perception of collaboration may impact strategy use (Dao, 2020), a similar training with a different task type may have yielded different results regarding strategy numbers. In this sense, less use of corrective feedback in this study could be attributed to learners' low level because the provision of corrective feedback requires the interlocutor to notice the error first (Loewen & Sato, 2018). Low-level learners may have not noticed errors in their partner's utterances. Even when they noticed errors, learners may have chosen not to correct errors because they felt that it was not appropriate to correct their conversational partner (Philp et. al. 2010). Thus, while evaluating the impact of strategy training, future studies should take variables such as task type and proficiency into account.

5. Conclusion

This study attempted to contribute to the literature by providing useful implications and practical evidence, as well as to our understanding of how and to what extent classroom interactional training can help students apply interactional strategies and improve interaction toward a more collaborative end. Interactional strategy training seems to have great potential in creating skilled interlocutors who could negotiate meanings, resolve communication breakdowns, provide feedback, and build and extend on ideas successfully. For this reason, it is essential to invest time and effort into developing verbal communication abilities. An increase in the prevalence of pair-task formats for assessing oral communication skills highlights the need to further improve collaboration among peers. To achieve this, it appears that the provision of instructional assistance is needed, especially for lower-level learners. The amount of time and effort spent on the material creation phase is daunting for teachers, and this poses implications for textbook creators. Rather than merely including pair-work and group work tasks in textbooks, allocating greater room for interaction strategies will alleviate some of workload on teachers. The findings also suggest that there is a need for more empirical endeavors that could inform our understanding of dynamicity in dyadic interactions, and their manipulation. Future studies can focus on strategy training with learners of varying proficiency levels, and investigate the extent of shift in dyadic interactions of these learners. Conducting stimulated recall sessions, future research could also focus on the reasoning behind the presence and absence of certain interactional strategies and collaborative moves during pair-work.

Appendices

Appendix 1. Post-test - Pair Task

Deserted Island

Your boat is sinking and that there is a deserted island nearby. You have a backpack, but you can only take seven items with you. Make a list of seven items which you think are necessary for survival.

- There is a fresh water spring on the island, and there are banana trees and coconut palms.
- The climate is mild.
 - Look at the items below, work with your partner and agree on a common list of seven items that you think are the most important.
 - Order the items from the most important to the least important.
 - With your partner, discuss and write reasons for choosing the items.

List of possible items

- | | |
|------------------------------|----------------------|
| A lamp | A plate |
| A tube of sunscreen | A pencil and a paper |
| A bottle of insect repellent | A towel |
| A compass | A watch |
| A knife | A blanket |
| A mirror | Boots |
| A tent | An axe |
| A gun | A fishing rod |

Write the items you chose and the reasons for choosing them below.

Items (from the most important to the least)	Reasons for Choosing Them
.....
.....
.....
.....
.....
.....

.....
.....
.....
.....

Appendix 2 – A Sample Strategy Training Sheet

Week 3 - Appealing for Assistance

A. Read the dialogue between Jeff and Jill and answer the questions.

JEFF:	I know you would you get excited about things like this too, but did you read in the paper about the (..) um planets? Circulating around other stars?
JILL:	No. What about them?
JEFF:	There's irr-, irreb-, irred- There's proof. What's the, what's the word that goes before proof? What is the word for things that can't be proved wrong?
JILL:	Irrefutable.
JEFF:	Irrefutable, yeah [laugh, laugh].

1. What is the word that Jeff forgets?

2. What does Jeff do when he forgets the word?

2. What expression/s does Jeff use to describe the word he forgot?

B. Expressions for asking for help

How do you say?

How do you say it in English?

What do you call it?

What does mean?

Can you write it down?

What do you call the person who?

What do you call the thing which?

What's the word for ... /to describe (it) ...?

I can't remember / I've forgotten the word for ...?

What's the name of ...?

C. Practice – Whole class

- Keep a word (a person, animal, object) in mind. Try to give details without telling its name.

Example: What do you call the object we use to transfer files between computers? - A flash drive

D. Practice - Pair-work: Taboo

- You each will have 10 taboo cards.
- Take turns giving your partner clues about the guess-word.
- Help your partner find the guess- word without using the taboo words.
- Use expressions for asking for help to describe the guess-word.
- Keep the time to decide who describes words faster.

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Etik, Beyan ve Açıklamalar

1. Etik Kurul izni ile ilgili;

Bu çalışmanın yazar/yazarları, Hacettepe Üniversitesi Etik Kurulu'nun 11.11.2019, tarih ve 1944218-300/00000859345 sayılı karar ile etik kurul izin belgesi almış olduklarını beyan etmektedir.

2. Bu çalışmanın yazar/yazarları, araştırma ve yayın etiği ilkelerine uydıklarını kabul etmektedir.

3. Bu çalışmanın yazar/yazarları kullanmış oldukları resim, şekil, fotoğraf ve benzeri belgelerin kullanımında tüm sorumlulukları kabul etmektedir.

4. Bu çalışmanın benzerlik raporu bulunmaktadır.
