

Teacher Gestures: An Action Research on Iranian EFL Learners' Long-term Retention of Idiomatic Expressions

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Abstract

The present study aimed at evaluating the effect of using three types of teacher gestures including representational (iconic, metaphoric) and emblematic gestures on the long-term retention of some L2 (here, English) concrete, and figurative idiomatic structures among a group of volunteering female junior high-school learners in Sabzevar, Iran. Via a multi-stage, mixed-method research design, over a period of eight weeks mainly focusing on an action research design, twelve learners of the eighth and ninth grades of high schools were presented with forty-eight English idiomatic phrases. Post-tests on the immediate and delayed recall and recognition tests served as the primary tools for collecting the essential data along with frequent teacher notes on their performance. The report from Wilcoxon Signed-Ranks Test indicated that the median delayed post-test ranks were not statistically significantly different from the median immediate post-test ranks $Z=12$, $p \geq .754$, which proved a positive effect of using gestures on long-term retention of idiomatic phrases. In the second phase, teachers' and students' views were also scrutinized which showed positive feedback over the process. Implications for L2 classes were then presented in the light of recent multi-modal strategies for teaching target language forms having idiomatic expressions for the English as a Foreign Language (EFL) context.

Keywords: emblematic gestures, long-term retention, iconic gestures, idiomatic expressions, metaphoric gestures

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1. Introduction

In L2 contexts, “gestures”, have long been used for describing a variety of body and facial movements for different instructional aims such as vocabulary learning (Demir & Goldin-Meadow, 2010; Johnston & Ferrara, 2012; Macedonia & Knösche, 2011). Within vocabulary instructional domains, teaching idiomatic words and expressions needs consideration of many aspects of word meaning such as literal meaning vs. figurative meaning. Idioms are figurative expressions that can often consist of both a literal and figurative meaning as in collocations (Benson et al., 2010; Gibbs, 1989). Literally, collocation as a more general term refers to “some informal structures which designate terms to address the possibility of occurrence of largely two or more words in lexical or syntactic relations” having non-literal meanings (Demir, 2017, p.76).

Shooshtari and Karami (2013) outlined collocations in three groups: Lexical collocation, Grammatical collocation, and Idiomatic expressions. Grammatical collocations are defined as the knowledge of the rules including vocabulary and word-formation, pronunciation/spelling and sentence structure. Grammatical collocations consist of a dominant word-noun, adjective/participle, verb and a preposition or grammatical construction, but lexical collocations do not have a dominant word; they have structures such as “verb +noun”, “adjective+ noun”, “noun + verb”, “noun + noun”, “adverb+ adjective”, and “adverb +verb” (Benson, 2010). It is a common belief among scholars that in comparison with native speakers, nonnative speakers exhibit different problems regarding collocations (Saliminejad & Karimkhanlooei, 2018).

In the light of the aforementioned statements, in the context of Iran due to the fact that we are encountered with this problem, one of the ways through which we can meet this issue, might be instructing collocations by means of gesture repertoire.

In this study, we intended to exhibit some kinds of collocations (Idiomatic expressions) through gestures to examine the connection between and among different kinds of gestures including non-arbitrary (iconic, metaphoric) and arbitrary (emblems) gestures to determine which category of gesturing, targeted students reacted positively and quickly and altogether what the learners’ attitudes towards gestures used by the teacher were within long and short duration/intervals. Arbitrary or high-idiosyncratic gestures (emblems) are meaningless motions that are made up by the speaker and bear no obvious connection to a particular word (Christianson, 2019). On the contrary, reference objects, actions or relations are brought to mind by recreating an aspect of their referent’s shape or movement. Here, physical entities or incidents are categories of iconic gestures. Likewise, abstract beliefs or concepts are groupings of metaphoric gestures (e.g., stirring the hands forward to demonstrate the future (Cartmill et al., 2012).

2. Literature Review

A quick review of gesture literature in L2 studies showed that despite relatively vast research in the field of gesture in different cultures, in Iranian culture, gesture has not yet been sufficiently investigated or proven empirically in terms of classroom practise or teaching technique by teachers. According to Sim

(2006), teachers who show enthusiasm in their teaching via a relaxed body posture, abundance of gestures and eye contact and positive facial expressions increased tokens of learners' appreciation for their teachers. According to Scherr (2008), the main role of gesture in grasping of uttering and impression is evident.

Studies on gesture application in educational contexts are broad. Voluminous studies about gesture have been confirmed; for example, the role of gesture in language formation and perception (Alibali et al., 2000; Goldin-Meadow, 1999), gesture's role in schooling and learning (Goldin-Meadow & Wagner, 2005); and gesture when it takes over as the underlying mode of communication in children who do not have a dependable language (Goldin-Meadow, 2003; 2009) and in adults (Goldin-Meadow et al., 2008).

Nevertheless, in language education, in general, and vocabulary instruction, in particular, learning needs consideration of many aspects. Literal meaning and figurative meaning are just examples of the uses of such instructions through gesticulation, which can be enhanced. In this regard, a number of researchers have examined the issues related to idioms with respect to the knowledge of idiomatic meaning declared whether the figurative meaning of an idiom can be inferred from the constituent words literal meaning for instance, such as "keep in touch" versus "keep the bucket" (Citron et al., 2016). Although previous studies have demonstrated that gestures have a facilitator role, still, there are some ambiguities in this regard, such as if teachers utilize a certain gesture as a habitual technique, to what extent the learners might pay well attention to the teacher's gestures just like the first time that they had been encountered with that gesture. Likewise, will learners observe the teacher as an actor? If the teacher frequently applies his/her arbitrary gestures in the class, will the teacher's authority be questionable? It seems that some teachers are not capable of doing the natural gestures in class; they have formal poses, as well as having no control over their classes. Regarding gesture, as a potential procedure of language learning for adults and particularly, the gestural input acquired from parents and teachers simultaneously by children have vigorous roles in language acquisition (Goldin-Meadow et al., 2012).

In accordance with previously documented studies, ways of grasping verbal ideas within classroom settings by teachers were stated (Alibali et al., 2014; Malmir & Taji, 2021; Richard et al., 2007). First, a teacher with pointing to an aspect, then points to the corresponding image, and finally clarifies the referents of the accompanying speech, gradually they may contribute to students' comprehension of expressed verbal links.

According to Kendon and Gullberg's (2006) studies, learning from a narrow phenomenon defines gestures as indicative movements related to continuous talk along with the revealing effort or intention (Kendon 2004a; McNeill; 1992, 2005). Other functional actions such as (lifting a real cup to your mouth to drink), indicative movements or "self- regulators" (Ekman & Friesen, 1969), such as scratching or picking at specks of dust, as well as other types of non – verbal behavior like disposition (Bull, 1987), proxemics (Hall, 1968), reddening, pupil dilation, are eliminated from narrow definition. Although these types of movements are not communicatively unrelated, they are irrelevant to the speakers' part of the transferable message. Definition of gesture involves a wide range of behavior like the thumbs- up-sign; movements portraying aspects of objects and occurrence (tea cupping your hands when talking about a cup or raising

the visualized cup to your mouth by its ear to drink); and simple rhythmic movements that examine speech (Gullberg & Adam Kendon, 2006).

Individual differences such as variables of personality (Hostetter & Potthoff, 2012; O'Carroll et al., 2015) and cognitive aptitudes (Chu et al., 2014; Smithson & Nicoladis, 2013) and cross-cultural dissimilarities (Nicoladis et al., 2019) have a significant impression on gesture frequency. Gestures on the basis of form and function are grouped into one of the following four sorts (McNeill, 1992). All of them convey some features of meaning including deictic gestures, conventional gestures, representational gestures (iconic & metaphoric), and beat gestures.

Although many studies have been conducted in the Iranian EFL context on teaching and learning L2 vocabulary in general and different types of idioms in particular (e.g., Khabiri & Masoumpanah, 2012; Malmir & Parhizkari, 2021), the use of gestures that are very important-linguistic features of the language, for teaching and learning idioms is very rare. Because of the importance of idiomatic knowledge for acquiring an international language like English on one hand and the importance of gestures in language teaching classes on the other hand (e.g., Hostetter & Potthoff, 2012; Kendon & Gullber, 2006), investigating the impact of various kinds of gestures on the acquisition and retention of L2 idiomatic expressions can be very beneficial for the EFL community. The purpose of the current research is to examine whether teachers' use of arbitrary (Emblems) vs. non-arbitrary gestures (Iconic & Metaphoric) has any effect on the learners' long term retention of a set of idiomatic expressions in English as a Foreign Language (EFL) learners. Accordingly, the following research questions were proposed:

1. Can gesture instructions including a) arbitrary gestures (emblematic), and b) representational gestures (iconic & metaphoric), improve long-term retention and recall of idiomatic expressions among EFL high school learners?
2. What are students' reactions towards using gestures in teaching idiomatic expressions?
3. What is EFL teachers' feedback towards using gestures in teaching idiomatic expressions in other contexts?

3. Method

In this study, the researchers made an attempt to examine whether the gesture-based instruction of new action phrases and figurative phrases/items with arbitrary and non-arbitrary meanings could be effective, in other words, to clarify if gestures (iconic, metaphoric & emblems) might convey the meaning more efficiently and in effect result in more beneficial long term retention.

3.1. Participants

A sample of 12 female learners, whose ages ranged from 14 to 16 participated in the study. For this scrutiny, the researchers exerted a convenience sampling that consisted of two classes. Younger learners were chosen since they had the precedence of being great mimics, were often less self-conscious, and were prepared to enjoy the activities that the teacher had outlined for them. All participants had similarities in

terms of culture and ethnicity accompanied by their mother tongue-Persian, and English was the medium of instruction in class. The instruction surrounding was a mixture of eighth and ninth-grade students (junior high school). Prior to conducting the research, the participants were informed of what they were supposed to go through. They were homogenized in terms of age and gender, but learners needed to be homogenized in terms of language proficiency as well.

To assure their homogeneity, a placement test (OPT) exam was administered among them and those who had gained two minus/plus lower and higher than the mean were excluded from the study. Finally, based on CEEFR frameworks, those whose scores ranged between 21 and 41 were selected. For applicability reasons, only the vocabulary and grammar sections of a validated version of OPT were used. After the placement test was conducted, accordingly twelve students were at pre-intermediate and intermediate levels. Table 1 shows their demographical information for the sampled learners.

Table 1*Learners' Overall Demographic Information*

Name	Venue	Grade	Age	Gender	L1	Economic level
Tooba	Ordinary School	8 th	14	F	Farsi	Medium
Mahshid	Ordinary	8th	14	F	Farsi	High
Zahra	Ordinary	8th	14	F	Farsi	Medium
Zahra2	Ordinary	8th	14	F	Farsi	Low
Zeinab	Ordinary	8th	14	F	Farsi	Medium
Najmeh	Ordinary	9th	16	F	Farsi	High
Hoda	Ordinary	9th	16	F	Farsi	High
Asma	Ordinary	9th	16	F	Farsi	Medium
Fateme	Ordinary	9th	16	F	Farsi	Medium
Nafise	Ordinary	9th	16	F	Farsi	Low
Maryam	Ordinary	9th	16	F	Farsi	Medium
Maryam2	Feature	8th	14	F	Farsi	High

In the second stage of this examination, another group of participants (76.4%, female and 23.5 % male) consisted of seventeen teachers having experiences regarding the effect of teacher's gestures on learners (Table 2).

Table 2*Demographical Information of Volunteering Teachers*

	Name	Gender	Teaching experience	Teaching context	Degree
1.R	Male	22	Senior & Junior high school		BA
2. M	Female	10		Institute	MA
3. M	Female	8		Institute	MA
4. M	Female	10		Institute	MA
5. B	Female	7		Institute	BA
6.N	Female	13		Institute	BA
7. H	Male	23	Senior high school		MA
8. H	Male	18		Institute	MA
9. B	Female	7		Institute	MA
10. N	Female	17	Senior high school		MA
11. Z	Female	7		Institute	MA
12. Z	Female	7		Institute	BA
13. M	Female	10		Institute	MA
14. A	Male	24	Junior high school		BA
15. B	Female	5		Institute	MA
16. M	Female	20	Junior high school		MA
17. A	Female	7		Institute	MA

3.2. *Materials and Instruments*

The materials were comprised of a set of 48 English collocational phrases from two books entitled “English Idioms in Use” by O’Dell and McCarthy (2010), “The Joy of Signing” by Lottiel, Riekeh (1988), “OPD” (Oxford Picture Dictionary) by Jayme Adelson- Goldstein and Norma Shapiro (2015) and “Family and Friends 1, 2 & 3” by Thompson & Simmons (2015) from Oxford University Press (OUP) among three experimental groups.

Sixteen phrases had concrete meaning, which could be put forth by iconic gestures and the next sixteen phrases had abstract meanings exerted by a metaphoric gesture, likewise, the last sixteen phrases were a mixture of last words and phrases exerted by emblems. Arbitrary gestures or the same Emblems in this study referred to meaningless motions that were made up by the teacher to bear connections to a particular word (Huang et al., 2019). Representational gestures including Iconic and Metaphoric gestures entailed reference objects, actions or relations brought to mind by recreating as an aspect of their referent's shape or movement. Iconic gestures represented physical objects or events. Metaphoric gestures represented abstract ideas or concepts (e.g., moving the hands forward when talking about the future).

To minimize the effect of the participants’ prior knowledge of the target idioms, a researcher-designed pretest was administered to examine what idioms were preferable to be taught. Participants were asked to put a tick over the idiomatic expressions they knew by providing a Persian translation of their equivalent meaning in Persian. The already known idioms were finally omitted from the study. Lastly, 48 unfamiliar expressions were selected. Furthermore, several instruments were utilized for gathering data.

3.2.1. *Oxford Placement Test (OPT)*

Oxford Placement Test (OPT) was used for measuring learners’ proficiency levels.

3.2.2. *Researcher-made Questionnaire*

The second instrument was a researcher-made questionnaire consisting of a set of closed items having 5-point Likert-type styles, varying from 1 to 5 as well as, an open-ended item. The Cronbach’s alpha test was used to estimate the consistency of participants’ responses to the questionnaire. The results showed a fair reliability coefficient on diverse scales which indicated that the responses to the questionnaire items were acceptable. According to the pilot tests, the validity of the present questionnaire through three other researchers was confirmed (Table 3).

Table 3

Reliability Analysis of the Scales in the Online Questionnaire

No.	Names of Scales	Cronbach's Alpha
1	Different techniques	.3
2	Efficacy of teacher's gestures	.6
3	Efficacy and inefficacy of teacher's gestures	.4
4	Other ideas	.03
5	Teacher's domination	.05
6	Long-term retention	.5
7	Convey the meaning faster	.2
8	More collaboration	.6

3.2.3. Short Movies

Another instrument for collecting data in this study was short movies taken from the teacher's gestures during the sessions that were feasible by locating a camera at the back corner of the small class, learners' feedback namely their collaboration in the form of matching gestures were taken into consideration as well.

3.2.4 Listed Idioms

Likewise, the next instrument for collecting data consisted of listed idioms that the researcher-complied with through open-ended posttests taken to participants to test the results of the proposed methods of idiom teaching through gestures. A delayed listed idiom as an open-ended posttest was also used to check the students' retention.

3.3. Procedure

The participants were initially divided into three groups to receive different treatments. Group1 received instruction through the iconic gesture, Group 2 through metaphoric, and Group 3 through emblems gesture techniques.

The ninety-minute sessions of instruction lasted for 6 weeks, with the first researcher being the responsible teacher. Before the first gesture activity, the teacher briefly explained the technique, its potential benefits, and the research project to the students, discussing the goal of associating new phrases with nonverbal (visual) cues rather than translations or other verbal cues. Although brief (2-3 minutes), these explanations might have influenced students' disposition toward performing gestures in class. The participants completed a pretest before each gesture lesson, in which they checked known and unknown words from a list of new phrases. The teacher found that the gestural advantage in learning declined when students were introduced to about sixteen phrases at one session since she decided to give students about eight phrases with gestures during one session and that instructional session turned into a problem-solving task that engaged all students in instruction. Strategies to ensure credibility involve prolonged engagement, persistent observations, triangulation and member check (Lincoln & Guba, 1985).

In every session, the teacher repeated English phrases several times, the learners not only regarded the teacher's gestures but also because of much enthusiasm, they made comments about the teacher's gestures and sometimes they were self-imposed to do the same gestures. Furthermore, with their collaboration, students approached to the meaning and made other students' minds clear. In addition, instructional sessions had been converted into physical and mental tasks. Visualizing a gesture with each phrase assisted students to remember them better. However, at first, the students encountered some problems. The role of auxiliary gesture induced them to remember the meaning of a certain phrase in L1 and remembering in English was challenging. But, the teacher with engaging self-stem and reluctant

students together and giving the cue to them solved the problem to some extent. Likewise, some students were not proficient enough in L2 in order to learn pronunciation and comprehend the meaning of the phrase simultaneously through the teacher's gestures, so the teacher-researcher wanted students to repeat phrase-gesture combinations, but due to the teacher-researcher, this could not provoke each individual student to repeat phrase-gesture hybrids, some learners did gestures with no repeating the phrase, repetition accomplished through different activities.

The teacher (the first researcher) wrote memos during and after each session on how the gesture activities expanded students' partaking, and immediate alterations to classroom management.

Likewise, the teacher-researcher being confident that the participants were able to realize the distinction between action phrases demonstrated by iconic gestures and figurative phrases demonstrated by metaphoric gesture, the teacher prompted the participants by resorting to dictionary and checking the meaning of each phrase literally, they could conclude that the phrase could be figurative or concrete. If literal meaning was senseless, so the phrase was figurative.

According to Clissett's (2008) prolonged engagement, the researcher spent 12 months with participants and had familiarity with their needs and interests. For this reason, the teacher-researcher was supposed to take into account idioms according to students' proficiency levels and their interests and personality, so that she can engage all of the students. Figure 1 shows one such instructional class.

Figure 1

Photo of Role Plays Along with Gesture



As figure 1 shows, a combination of conversation-gesture between two students including previously taught phrases was followed. It included demonstrating a considerable number of phrases by gesture and the rest of the conversation was followed verbally.

According to MQ (2015), triangulation is a general approach by which analyzing a research question from more than one perspective ensures the credibility of qualitative findings. The teacher-researcher in the role of observer recorded and judged students' use of phrases. In the middle and the end of the experiment, the teacher-researcher had interviews with learners and knowledgeable gesture teachers that had experience in teaching English for over seven years. One of them was the manager of an institute that instructed

alphabetic letters and words through gestures to young learners, the rest of whom had experiences in the field of instruction through pantomime to teenagers. The researcher selected these groups of teachers through purposive sampling.

The semi-structured interview followed through teachers' experiences and insider viewpoints about gestures as well as students' comments. The interview was designed to cover four sub-topics:

- 1) The effect of teacher's gesture on students' learning.
- 2) The effect of gesture on long-term retention.
- 3) The effect of gesture on teaching.
- 4) The comparison of kinds of gestures.

In the present research, the researchers decided to determine whether comprehension of decontextualized idioms with the help of gestures was feasible or not.

3.4. Data Analysis

In the process of presenting qualitative research after observing the class and doing interviews with the teachers and learners as well as their voice recording, also doing open-ended along with close-ended questionnaire by the learners, all the data were transcribed and typed. Both voice-recording the data and transcribing them by the first and second teacher-researcher as her mentor could confirm the truth of the collected data.

According to the latent content analysis techniques, since meaning could not be overtly evident in the interviews and observations (Drisko & Maschi, 2016), the researchers analyzed the data within the framework of qualitative approaches according to the techniques of Corbin and Strauss (2011), in order to keep concepts as the unit of analysis in the context of the interview, hence paragraphs, phrases, and sentences were considered and by isolating the elements of the message we tried to open the codes that were extracted.

In order to address the dependability issue more directly, the researchers reported the processes in detail, thereby enabling the future researchers to repeat the work, for gaining the same results, namely transparency of the research design and its implementation, describing what was planned and executed on a strategic level, in addition, the operational detail of data gathering.

4. Results and Discussion

4.1. Results

4.1.1 Phase One: Action Research Plans

During the first session, eight phrases that had concrete meaning were demonstrated along with the teacher's iconic gestures. The teacher wrote eight phrases on the board, and meanwhile, she repeated every phrase twice or three times. The students participated actively and with collaboration attempted to guess

the meaning. Session 2 included 3 assessments. In the first assessment, the participants heard the phrases in a different order and had to show the associated iconic gesture. In the second assessment, they were demonstrated iconic gestures and had to produce the corresponding phrase. In the last assessment, teacher-made material that included phrases in the form of multiple-choice along with the teacher's picture of a related gesture was given to participants. In the third session, next eight phrases were demonstrated through teacher's iconic gesture too as in the following:

Teacher: vacuum the carpet

Learner1: vacuum the carpet (self-repetition), arms hands, legs, and feet are engaged.

Teacher: hoping for good luck

Learner2: hoping for good luck (self-repetition)

only hands are engaged.

At last in the next session, a posttest was taken. In this step, sixteen listed phrases were delivered to the participants to check they could remember the meaning of every phrase. These processes (treatment to post-test iconic gestures) were accomplished over 2 weeks. Gestures were different, likewise, the researcher had examined 3 species of representational gestures (iconic, metaphoric, emblems), so it was essential for participants to get familiar with these three kinds of gestures. In addition, Metaphoric and emblematic gestures exactly analogous to iconic gestures were administered for 4 weeks. In the end, posttests consisting of listed phrases were taken to them. Although in this procedure, every twelve participants got familiar with three kinds of gestures, writing the meaning of some phrases with no picture of the teacher's gesture was somewhat difficult for them, as they cited, "some phrases are very familiar for us, but we need a little cue gesture to remember completely" since they requested the teacher to deliver them a cue of gesture. Due to the fact that during the seventh week, gesture activities were reinforced through other informative activities such as a combination of gestures in context for comprehension check, and role-play gestures were given to the participants to review target phrases of the past week. Within the eighth week, participants were divided into 3 groups, and randomly four participants were taken emblems posttest and the other eight participants were taken iconic posttests and metaphoric posttests, to see which kind of gesture might convey the meaning more quickly. As a whole, these processes lasted eight weeks. After passing two weeks, a delayed posttest was administered.

4.1.2. Learners' Reactions toward Teacher's Gestures during Instruction

As for the second research question, one of the features of the present research was the reproduction of gestures by learners. This overuse by the learners had presumably helped other learners make a benefit. The results indicated an improvement in their performance in metaphoric gestures and emblems. During the instruction through gesture, prior to taking immediate and delayed post-tests, the teacher through the teacher-made materials that involved pictures of the teacher's gestures, took some quizzes in the form of multiple-choice, lasting for half an hour. All learners answered the quizzes conveniently. All learners

participated with eagerness and had positive reactions, only had a few problems with pronunciation. Table 4 designates students' performance in immediate and table 5 their performance in delayed posttests for individual learners (Two groups). In order to counteract the effect of any three types of gesturing on students' performance, each time different sets of students were exposed to diverse gesture types. Since the number of students was limited, results are reported as frequency counts/rates only.

Table 4*Results of Immediate Post-Tests Relevant to the Uses of Gestures (Metaphoric, Iconic Gestures and Emblems)*

*Selected Idioms (abstract idioms): burst into tears, the tickled pink, chicken-hearted, have an egg on your face, eat like a bird, etc	Frequency Counts/rates	
Maryam	10/16	62.5%
Nafiseh	5/16	31.2%
Zeinab	14/16	87.5%
Zahra	16/16	100%
*Selected Idioms (concrete idioms): stir the soup, dry the dishes, go jogging, do exercise, chop the onion, take out the trashcan, bounce a ball, etc.		
Zahra2:	9/16	56.2%
Tooba	16/16	100
Mahshid	14/16	87.5%
Hoda	9/16	56.2%
*Selected Idioms (concrete-abstract, phrase and word): peace, well, in my heart, build, tent, solidarity, on my eye, snap snap, etc.		
Maryam2	12/16	
Asma	13/16	
Najmeh	16/16	
Fatemeh	13/16	

Table 5*Results of Delayed Post-Tests Relevant to the Uses of Gestures (Metaphoric, Iconic Gestures and Emblems)*

Item (abstract phrase): burst into tears, be the tickled pink, chicken-hearted, have an egg on your face, eat like a bird, chicken scratched, etc	Frequency Counts /Rates	
Maryam2	10/16	62.5%
Tooba	16/16	100 %
Najmeh	16/16	100%
Zahra	16/16	100%
Items(concrete phrase): stir the soup, dry the dishes, go jogging, do exercise, chop the onion, take out the trashcan, bounce a ball, suffer a heart attack, etc.		
Asma	5/16	31.25%
Hoda	13/16	81.25%
Mahshid	11/16	68.75%
Zahra2	12/16	75%
Item (concrete-abstract, phrase and word): peace, well, in my heart, build, tent, solidarity, on my eye, snap snap, etc.		
Fatemeh	15/16	93.75%
Maryam	15/16	93.75%
Nafiseh	10/16	62.5%
Zeinab	16/16	100%

In order to examine if the difference between immediate and delayed posttests were significant, Wilcoxon Signed-rank test was run as a non-parametric statistical test for small groups to compare two related samples. Tables 6 and 7 below display the results over correct responses in the two immediate vs. delayed posttests.

Table 6*Frequencies*

		N
Delayed posttest – immediate posttest	Negative Differences ^a	4
	Positive Differences ^b	6
	Ties ^c	2
	Total	12

a. delayed posttest < immediate posttest

b. delayed posttest > immediate posttest

c. delayed posttest = immediate posttest

Table 7*Test Statistics*

	Delayed posttest – immediate posttest
Exact Sig. (2-tailed)	.754 ^b
a. Sign Test	
b. Binomial distribution used.	

Based on the results from table 6, the report from Wilcoxon Signed-Ranks Test indicated that the median delayed post-test ranks were not statistically significantly different from the median immediate post-test ranks $Z = 12, p \geq .754$. This ensured long term retention of the instructed idiomatic expressions through three types of gestures.

Phase Two: Inquires on Students' and Teachers' Viewpoints

Tables 8 below display the open coding procedure with codes/ categories (no. 58) regarding the datasets related teachers' and students' views.

Table 8*Interviews with Teachers Coded as Posteriori Coding Manual Sheet (Open Coding)*

N	Codes	Sample data
1	Not threatening	Body language lowers anxiety, so it's gratified.
2	Lack of awareness	Teachers have no sufficient knowledge about gestures
3	Exposure (vivo code)	Contextualized phrase such as movie phrase makes learning beforehand. The more expose to English language, the better learning.
4	Mnemonic Device	Whereas gestures provide gratified experience they make long-term retention.
5	Contradiction	Learning pronunciation through gesture is disappointing.
6	Heavy burden on memory	Learning accompanied with constraint leads to short-term retention.
7	Leaving traces in memory	Each three kinds of gestures have positive effects on learning.
8	Emotional triggers	Students like emblems

N	Codes	Sample data
9	The role of other visual or audio multimodality	Gestures are not practical for all phrases.
10	Mental image	Teachers' gestures provide image in kids' mind.
11	Dexterity of teacher	Teachers' domination over gesture in learning phrases is considerable, namely teachers' flexibility in shapes of being an artist, an actor.
12	The role of scaffolding for iconic gesture	Iconic gestures convey the meaning faster in comparison with other gestures.
13	Teacher's management	Since gestures are accompanied with motion, they cause lack of disciplinary in the class and must be controlled by teachers through various techniques.
14	Complementary	Gesture is definitely gratified. In addition, diminishes stress and is a kind of variety in the class as well as inspires learners for more motion and activity.
15	The role of inhibitor in traditional techniques	Cooperation among students and teacher-student bounded is forgettable by traditional technique.
16	Threatening of the setting	Atypical students, even shy students with existence of iconic gestures are unable to participate in the activities.
17	The compensatory role of gesture in expressing some feelings	Some inner feelings such as love and hate are comprehensible through non-verbal behaviors.
18	Enacted words	Iconic gestures make good results for abstract words.
19	Reducing memory cognitive load	Iconic and metaphoric gestures cause long-term retention.
20	Internalizing verbal and non-verbal	Gestures along with repetition and practice make long-term retention.
21	Interrelationship	When you match action with words and make relationship between them definitely better learning occurs.
22	Scaffolding	Gestures promote collaboration among students.
23	Facilitator	Gestures reduce heavy burden on the memory.
24	Rote learning	As the students cited, "we studied, but we do not know why we forget.
25	Degrees of intimacy	There is no limitation in kids' class, in this case gesture is really better than picture.
26	Internalizing verbal and non-verbal information	When practicing is accompanied with gesture, this makes good results for example, Hello or Goodbye that is accompanied with motion of hand helps learners in understanding.
27	Deep learning	In the class, learners only comprehend the word or phrase and no keep in their mind for long-term, only short-term retention occurs. For long-term retention, many practices are indispensable.
28	Collaborative learning	The best technique for teaching phrase is a combination of body language, picture, story, drill.
29	De/contextualization	Learning of phrase individually has no good result, the learner understands, but has no production.
30	Retrieval-based learning strategies	In the face of competition and scoring-book also group work, learning all of combined gesture-phrase is achievable.
31	Memory enhancement	Since gesture is mixture of picture and motion stimulates learners to comprehend deeper and better.
32	High frequency of movie (vivo code)	If high frequency of movie is taken into account in that case movie is better than gesture in long-term retention.
33	Creativity of teacher's gesture	Teaching abstract concepts with the assistance of gesture is practical.
34	The role of scaffolding of iconic gesture	In grading the gestures in terms of being effectual, each three kinds of gesture have positive effects in learning phrases, but iconic gestures have high priority in learning, then emblems and finally metaphoric gestures.

N	Codes	Samples
35	Illustration	We have gestures for English alphabets for example for learning letter A or alligator with teacher's motion of hand and face learners are capable to recall the meaning easily.
36	Self-confidence	Gestures reduce the stress since the learners are confident that if they do not remember the word, they will convey the meaning by means of gesture.
37	Grouping (vivo code)	Gestures are not practical for all phrases. Using gestures for all of phrases may result in a boring and baffling situation in learners. Grouping phrases and learning them through picture, movie and gesture is another technique. For learners with having low proficiency, particularly gesture is a new technique for learning language though for high proficiency level students is obligatory to consider
38	Engaging all of students in gesturing	gesture, because of having some deficiency as well.
39	Illustration	If the children watch movies 2 or 3 hours a day, they will be bilingual spontaneously. It is no need to say what it is in English, or what it that in Persian. But in limited instructional places with watching the movie one time, it is not effectual.
40	Meaningful learning	Because of being tangible, iconic gestures are easier to learn and teach.
41	Need analysis	Maybe lack of using gesture in teaching by teachers is relevant to the applying other techniques in teaching phrases, in other words, because of being different ways in teaching phrases, according to the students' needs each teacher selects one special technique.
42	Complementary	Gestures are combination of vision, action, and repetition that cause multiple learning. Even for spelling one individual word, the students use gesture. By resorting this way, not only learning is better, but also it is fun.
43	Discovery	Gestures induce no lack of disciplinary, but Conversely the child is paid attention to gesture thoroughly. In addition, this leads to excluding a boring class. Exactly with doing gestures collectively, shy students participate in the activity gradually.
44	Visual representation cues	One of the beneficial ways for learning phrases is picture particularly for adults. Pictures can replace some gestures especially for adults, because of existing some embarrassing in doing a number of gestures by teachers for adults.
45	Open ended prompts	Gestures in the role of facilitator or auxiliary convey the concepts, they are not separated from the concepts. For example, if you show "Hello" with hand, this motion of hand through providing mental image helps the learning of concept and finally cause long-term retention.
46	Meaningful learning	As a whole, gesture is more trustworthy in comparison with mere verbal answer.
47	Co-speech gestures	What is clear and significant is that in examining foreign language, conveying the meaning through verbal cues is very difficult, as a result you are impelled to use gesture.
48	Authenticity	Teaching pronunciation through gesture is impossible. The teacher can teach pronunciation through exposing learners in authentic and natives movies as well as listening and repeating are significant too.
49	Mental image	Through regarding the phrase, I remember the teacher's gesture.(student)
50	Body language	When gesturing by teacher, I had no problem, because of getting familiar with pantomime before. (student)
51	Fun(vivo code)	Sometimes fun emblems facilitated learning. (student)
52	Visual aids	I more pay attention to the something seen by eyes. (student)

N	Codes	Samples
53	Contradiction	Body language makes long-term retention, but learning pronunciation applied through traditional technique.(student)
54	Additional information	Body language indirectly stimulate learning. (student)
55	Complementary	Body language intensified intimate student-teacher relationship.(student)
56	Collaborative learning	Easy learning causes more fun activity, at last more intimate relationship.(student)
57	Scaffolding	Gestures along with repetition and practice especially for pronunciation make long-term and short-term retention.
58	Engaging all students	Teacher's gestures have positive impression either low proficiency or high proficiency learners.

According to the above table, the researchers utilized diverse terms in open coding stage to define and analyze some more general categories in the following phases. The researchers marked important sections and added descriptive names for the codes. In some parts, they used line-by-line coding. In the next stage, the researchers analyzed codes during the process of axial coding to find the similarities and grouped them into categories on their common properties based on Corbin and Strauss' models (2008).

According to the results of content analysis, the efficacy of the present method was examined from two standpoints. First, learning the meaning of idioms was facilitated. Secondly, by decreasing the length of remembering, retention of the taught idioms was extended. In keeping with psycholinguistic studies of linguistic metaphor, people's bodily experiences in action were thought to have direct linkage with the imagination and understanding of metaphorical actions (Gibbs, 2006). Moreover, according to Chui (2011), a conceptualization that is the speaker's focus of attention was clarified through outstanding, supplementary information provided by figurative gestures. Gallese and Lakoff (2005) referred to the likelihood of activation of certain motor regions of the brain that has parallel linkage with the main source of metaphoric concepts through observing metaphoric gestures. The results at this stage were in line with Tellier's study (2006), which also expressed that teachers use gestures in all processes of learning, teaching namely class management, students 'feedback, syntax, phonology and semantics.

Teachers were required to state their reasons for any hypothetical responses to the issues relevant to the effect of variability of gestures as well as their outcomes followed up by comparing this technique with other techniques. In order to get further data and extract any effects, the researchers did the content analysis of their responses to have a closer inspection of their views.

Based on the results, 64.7% of the respondents believed that gesture individually causes long-term retention. While only 28.57% of them stated gesture like other techniques requires repetition. About 7.14% of the teacher believed that the necessary prerequisite for deeper learning through gesture is the aspect of being joyful. In addition, about 7.14% of them considered only iconic and metaphoric gestures for long-term retention. In the first place, this could denote that gesture is a kind of visual aid that entails the teacher's natural movement, subconsciously engages learners in guessing and matching gestures, namely gesture alone entail repetition, if exerted skillfully by the teacher, all learners engaged and there is no extra need for repetition by the learners at home. It became evident that 58.8% of teachers according to their experiences

stated that iconic gestures convey the meaning faster in comparison with other gestures, because of carrying concrete and tangible meaning, particularly for kids. However, 26.6% of them believed that it could depend only on the teacher and the innovations used by him/her. Likewise, 13.3% of them had an overall standpoint regarding being effective relative to other techniques. 60% of the teachers stated that most of the participants who had benefited from gestures were low-proficiency learners though only 29.4% of teachers claimed that either high or low proficiency profit from the gesture. Because gesturing is wasting the time since the teacher has no ability to transmit the majority of concepts in a specified time by gesture, most high proficiency learners are opposed to it unless they had a kinesthetic learning style or for comprehending abstract concepts obliged to learn by the gesture. Undeniably, this claim was emanated from experiences that some qualified teachers had already achieved. Because according to some research, the probability of utilizing gestures with the feature of enhancing the meaning of the verbal message and capability of communication in proficient learners is more prominent relative to deficient learners (Tammy, 2009).

All the teachers witnessed that gestures could provide a mental image in learners' minds. According to Pouw et al. (2014), "without physical gesture the internal spatial image becomes unstable and its activation is likely to decay" (p.7).

Clearly, 70.5 % of teachers confirmed that gesture has more efficacy relative to movies. Some of them stated that movie is not a suitable tool for early instruction of phrases. Some of them noticed learners' learning styles. Another group emphasized the high frequency of movies in the effect of the movie, and also referred to the complementary role of the movie besides gesture. Macedonia (2011) emphasized the recovery of enacted words relative to encoded words audio-visually in a superior way. Enacted words were also better retrieved than words encoded audio visually. Around 5.8% of teachers stated that movies and gestures have a mutual connection. By resorting to the movie, it could be inferred that the context of the phrases is learned by the movie. As the table displayed, 11.7% of teachers mentioned that movie is more efficient due to learning meaning and form simultaneously, but conversely, learning meaning and form by means of separated gestures concurrently, because of the time restrictions in the class was not seemingly feasible.

Admittedly, 64.7% of teachers asserted that learning pronunciation through gesture is possible. TZ13 mentioned that if teachers were aware of the places of pronunciation of sound inside the mouth and throat, learning pronunciation through beat gesture is possible. As another example, TN12 emphasized, "for individual letters, such as "s" doing body movement of snake along with sounds" is sufficient". In addition, 29.4 % of teachers opposed to the viewpoints of the first group. TM5 emphasized intuitive-imitative approach: Asking the students to listen to and imitate the rhythms and sounds of the target language with no explicit information.

4.2. Discussion

In this study, the main aim was to specify if gesture practices by a language teacher could help a group of female learners to practice long term retention of a set of forty-eight idiomatic expressions. The results

in the first place proved long term retention of a set of idiomatic structures, which were then approved by subsequent results gained from teachers' and students' views.

The results in this study were in line with the findings of Knosch and Macedonia (2011), in which they proved that self-performed gestures produced better memory. In sentence production by participants, they also discovered a high frequency of words presented with gestures. In another study, Quinn-Allen (1995) found that stabilization of presented expressions acquired through the learning of emblematic gestures relevant to them over time. Furthermore, this research was consistent with the findings of Allen (1995) and Tellier (2008) that, exposure and imitation of teacher-researchers gestures caused the level of remembering better.

Nakatsukasa (2016) suggested that gestures are more beneficial for low proficiency learners as confirmed by the results in this study. But according to Oakhill et al. (2016), an acceptable interpretation of idiomatic phrases for higher aged and more proficient students is feasible.

This study had the aim as examining the semantic conglomeration of gestures in class contexts (concrete phrase, figurative phrase, concrete and figurative word and phrase). The results showed that participants' interpretations of representational and emblematic gestures were influenced by teacher's treatment, pragmatic, and phonology manipulation. Importantly, during the instruction of figurative phrases by metaphoric gesture, recipients gained information from some sources including the real world such as "have a heart of Gold" plus presumably other nonverbal communicative behaviours such as facial expressions Gulec and Temel (2015), self-performed gestures Engelkamp and Zimmer (1983), mimicking teacher's gestures Allen (1995) and Tellier (2008) and common ground with a communication partner (Clark, 1996). Interpretation of figurative phrases exerted by metaphoric gestures influenced by mentioned factors mutually constrained each other. For the first research question, unsurprisingly, participants rated long-term retention of figurative phrases in the process of delayed post-test. Another issue can be the word length.

With investigation of the effects of iconic and arbitrary gestures on learning of novel labels for objects in 3-to-5- year-old, findings of Luke and Ritterfeld (2014) showed higher efficacy of both types of gestures relative to traditional techniques in children. Through administering immediate and delayed free stimulate tests for both age groups, the high availability of action phrases either in both age groups or in both tests was illustrated by researchers (Spranger et al., 2008). The concreteness of items has straight linkage with memorability, actually standard of performance all tests proved that among nouns, verbs, abstract nouns and adverbs, nouns were memorized best, and verbs and abstract nouns had a medium rank and adverbs ranked last (Macedonia, 2011). Moreover, gestures promoted verbal memory for concrete words and phrases and verbal items in a foreign language.

Multimodality is a suitable way for the perception of enacted words by the brain in foreign language training (Calvert et al., 2000; Calvert et al., 2004). In contrast, because of longer word stretches in concrete phrases, the outcomes substantially were different, as well as incongruent with the previous research. In other words, in line with the same perspective, Engelkamp and Zimmer practically proved that when

participants were exposed to performed action words by teachers and by themselves in that case, learning vocabulary items happens skillfully (Engelkamp & Zimmer, 1983).

Still, one should not be ignorant of other effects while using gestures. As Gulec and Temel (2015e) asserted, the teacher's soft tone of voice, his/her smiling face and being strenuous attracts learners' interest. But according to Oakhill et al., (2016), an acceptable interpretation of idiomatic phrases for higher aged and more proficient students is feasible.

Another issue can be the word length. In the process of the present study delayed-posttests, the learners were randomly matched together and along with one of the ninth-grade high proficiency learners, as a result, led to a high-frequency rate in the delayed-posttest. Additionally, abstract phrases had pragmatic meanings that enhanced the efficacy of the teacher's gestures. Furthermore, the length of some words had a reverse bond with recall, with long words being remembered later than short ones. In iconic phrases, this induced difficult learning, because it was so persuasive that word length might have influenced on recall (Baddeley, 2003; Baddely et al., 1975). Moreover, as Henry (1991) mentioned, long words are more phonologically complex than short words and take up "more space in the output buffer".

5. Conclusion and Implications

To cut a long story short, the present study like other similar researches inevitably suffers from some limitations such as time, participants and resources. The first limitation was relevant to the special situation of society that suffered from the Covid 19 emergency situation and entailed a lack of access to more participants in more language institutes and schools. Another point is that the researchers had no chance to examine the effect of the teacher's arbitrary and non-arbitrary on male junior high school learners. Finally, although practical examination of the speed of representational gestures in transmitting the message was not convenient and depended upon many causes, it did not diminish the importance of the study and paid away for future research. A pertinent suggestion for prospective researchers is finding fun figurative phrases exerted with metaphoric gestures and concrete phrases done with iconic gestures and comparing them in terms of conveying the meaning in younger or older ages with low proficiency levels. Likewise, comparing short abstract words exerted with metaphoric gestures and lengthy concrete words done with iconic gestures can be another suitable case for future researchers to examine whether features of diverse phrases or words may also influence the efficacy of teacher's gestures. Notably, this technique might diminish all dilemmas that students encountered in traditional techniques such as (anxiety, heavy burden, short-term retention teacher-based, and lack of cooperation).

References

- Adelson-Goldstein, J., & Shapiro, N. (2015). *Oxford picture Dictionary English-Thai edition: Bilingual dictionary for Thai-speaking teenage and adult students of English*. Oxford University Press.
- Alibali, M.W. Kita, S., & Young, A. J. (2000). Gesture and The process of speech production: We think, therefore we Gesture. *Language and Cognitive Processes*, 15,593-613.
- Alibali, M. W., Nathan, M. J., Eolfgram, M. S., Church, R. B., Jacobs, S. A., Jihson Martinez, C.,.....Knuth, E.J.(2014). How teachers link ideas in mathematics instruction using speech and Gesture: *A corpus analysis Cognition and Instruction*, 32(1), 65-100, <https://doi.org/1001080/7370008,2013.858161>
- Allen, L. Q. (1995). The effects of emblematic features on the development and access of mental representations of French expressions. *Modern Language Journal*, 79, 521-529.
- Baddeley, A. (2003). New data: Old pitfalls. *Behavioral and Brain Sciences*, 26(6), 709-777.
- Benson, M., Benson, E., & Iison, R. (2009a). *The BBI Combinatory Dictionary of English*. John Benjamins.
- Bull, P.E. (1987). *Posture and Gesture*. Pergamon Press.
- Calvert, G. A., Campbell, R., & Brammer, M. J. (2000). Evidence from functional magnetic resonance imaging of crossmodal binding in the human heteromodal cortex. *Current Biology*, 10, 649-657.
- Calvert, G. A., Spence, C., & Stein, B. E. (2004). *The handbook of multisensory processes*. MIT Press.
- Cartmill, E. A., Demir, Ö. E., & Goldin-Meadow, S. (2012). Studying Gesture in Erica Hoff (Ed), *Research Methods in Child: A Practical Guide* (208-223).
- Chu, M., Meyer, A., Foulkes, L., & Kita, S. (2014). Individual differences in frequency and saliency of speech-accompanying gestures: The role of cognitive abilities and empathy. *Journal of Experimental Psychology*, 143(2), 694-7090.
- Chui, K. (2011). Conceptual metaphors in gesture. *Cognitive Linguistics*, 22(3), 437-458.
- Clissett, P. (2008). Evaluating qualitative research. *Journal of Orthopaedic nursing*, 12(2), 99-105.
- Corbin, J., & Strauss, A. (2008). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (3rd ed.). SAGE.
- Demir, C. (2017). Lexical collocations in English: A Comparative study of native and Non- native Scholars of English. *Journal of Language and Linguistic Studies*, 13(1), 75-87.
- Drisko, J. W., & Maschi, T. (2016). *Content analysis. Pocket guides to social work research*. Oxford university press.
- Ekman, P., & Friesen, W. V. (1969a). The repertoire of nonverbal behavior: Categories, origins, and coding. *Semiotica*, 1, 49-98.
- Engelkamp, J., & Zimmer, H. D. (1983). Zum Einflu–S von Wahrnehmen und Tun auf das Behalten von Verb– Objekt-Phrasen [The influence of perception and performance on the recall of verb-object phrases]. *Sprache & Kognition*, 2(2), 117–127.
- Gibbs, R. W., Nayak, N. P., & Cutting, C. (1989). How to kick the bucket and not decompose: Analyzability and idiom processing. *Journal of Memory and Language*, 28(5), 576–593.
- Gibbs, Jr., & Raymond W. (2006). Embodied simulation in metaphor interpretation. *Mind and Language* 21, 434-458.
- Goldin-Meadow, S. (1999). The role of gesture in communication and thinking. *Trends in Cognition Sciences*, 3, 419–429.

- Goldin-Meadow, S. (2003). *Hearing gesture: How our hands help us think*. Belknap: Cambridge, MA.
- Goldin-Meadow, S., & Wagner, S. M. (2005). How our hands help us learn. *Trends in Cognitive Science* 9, 234-241.
- Goldin-Meadow, S., So, W.C., Ozyurek, A., & Mylander, C. (2008). The natural order of events: how speakers of different languages represent events nonverbally. *Proceedings of the National Academy of Science*, 105(27), 9163-9168.
- Goldin-Meadow, S. (2009). How gesture promotes learning throughout childhood. *Child Development Perspectives*, 3, 106-111.
- Goldin-Meadow, S., Levine, S. L., Zinchenko, E., Yip, T. K.-Y., Hemani, N., & Factor, L. (2012). Doing gesture promotes learning a mental transformation task better than seeing gesture. *Developmental Science*, 15, 876-884.
- Gulec, S., & Temel, H. (2015). Body language using skills of teacher candidates from Departments of Mathematics Education and Social Studies Education. *Procedia-Social and Behavioral Sciences*, 186, 161-168.
- Gullberg, M., & Kendon, A. (2006b). Some reasons for studying Gesture and second language acquisition, *Psycholinguistics IRAL*, 44(2006), 103-124.
- Hall, Edward T. (1968). Proxemics. *Current Anthropology* 9, 83-108.
- Henry, L. A. (1991). The effects of word length and phonemic similarity in young children's short-term memory. *The Quarterly Journal of Experimental Psychology*, 43(1), 35-52.
- Hostetter, A. B., & Potthoff, A.L. (2012). Effects of Personality and social situation on representational gesture production. *Gesture* 12, 62-83.
- Johnston, T., & Ferrara, L. (2012). Lexicalization in signed languages: When is an idiom not an idiom. In *Selected papers from UK-CLA meetings* (Vol. 1, pp. 229-248). United Kingdom Cognitive Linguistics Association.
- Huang, X., Kim, N., & Christianson, K. (2019). Gesture and vocabulary learning in a second language. *Language Learning*, 69(1), 177-197.
- Khabiri, M., & Masoumpanah, Z. (2012). The comparative effect of using idioms in conversation and paragraph writing on EFL learners' idiom learning. *Iranian Journal of Applied Language Studies*, 4(1), 59-80.
- Kendon, A. (2004). *Gesture. Visible Action as Utterance*. Cambridge University Press.
- Kendon, A., & Gullberg, M. (2006). Some reasons for studying Gesture and second language acquisition, *Psycholinguistics IRAL* 44(1), 103-124.
- Guba, E. G., & Lincoln, Y. S. (1985). *Naturalistic inquiry*. Thousand Oaks, CA: Sage Publications.
- L€uke, C., & Ritterfeld, U. (2014). The influence of iconic and arbitrary gestures on novel word learning in children with and without SLI. *Gesture*, 14(2), 204-225.
- Macedonia, M., & Knösche, T. R. (2011a). Body in mind: How gestures empower foreign language learning. *Mind, Brain, and Education*, 5(4), 196-211.
- Macedonia, M., & Knösche, T. R. (2011b). Body in mind: How gestures empower foreign language learning. *Mind, Brain, and Education*, 5(4), 196-211.
- Malmir, A., & Parhizkari, N. (2021). The effect of definition, fill-in-the-blank, and sentence writing exercises on the acquisition, retention, and production of lexical vs. grammatical collocations. *Journal of Teaching Language Skills*, 40(1), 33-82.

- Malmir A., & Taji, N. (2021). The interplay of action, context, and linguistic vs. non-linguistic resources in L2 pragmatic performance: The case of requests and refusals. *Language Related Research (LRR)*, 12(3), 215-253.
- McNeill, D. (1992). *Hand and Mind: What gestures reveal about thought*. University of Chicago Press.
- McNeill, D. (2005). *Gesture and Thought*. University of Chicago Press.
- Nakatsukasa, K. (2016). Efficacy of recasts and gestures on the acquisition of locative prepositions. *Studies in Second Language Acquisition*, 38(4), 771-799.
- Nicoladis, E., Nagpal, J., Marentette, P. (2019). Gesture frequency is linked to story-telling style: Evidence from bilinguals. *Language and Cognition* (2019), Page 1 of 24. <https://doi.org/10.1017/Langcog>.
- Oakhill, J., Cain, K., & Nesi, B. (2016). Understanding of idiomatic expressions in context in skilled and less-skilled comprehenders: Online processing and interpretation. *Scientific Studies of Reading*, 20(2), 124-139.
- O'Carroll, S., Nicoladis, E., and Smithson, L. (2015). The effect of extraversion on communication: Evident from an interlocutor visibility manipulation. *Speech Communication*, 69, 1-8.
- O'Dell, F., & McCarthy, M. (2010). *English idioms in use advanced with answers*. Cambridge University Press.
- Patton, M. Q. (2015). Enhancing the quality and credibility of qualitative studies. In *Qualitative Research & Evaluation Methods* (chapter 9), 942-943. Sage Publication.
- Pouw, W. T. J. L., de Nooijer, J. A., van Gog, T., Zeean, R. A., & Pass, F. (2014). Toward a more embedded/extended perspective on the cognitive function of gestures. *Frontiers in Psychology*, 5, 359. <https://doi.org/10.3389/fpsyg.2014.00359>.
- Richland, L.E., Zur, O., & Holyoak, K. J. (2007). Cognitive supports for analogies in the Mathematics classroom. *Science*, 316 (5828), 1128-1129.
- Riekehof, L. L. (1988). The Joy of signing. *Ear and Hearing*, 9(4), 227.
- Quinn-Allen, L. Q. (1995). The effects of emblematic gestures on the development and access of mental representations of French expressions. *The Modern Language Journal*, 79, 521-529.
- Saliminejad, P., Karimkhanlooei, G. (2018). A study on the type and frequency of unacceptable collocations in the English-Persian translations of Hemingway's Masterpiece: For whom the Bell Tolls. *Journal of Language and Cultural Education*, 6(3), 1339-4584
- Scherr, R. E. (2008). Gesture analysis for Physics education researchers. *Physical Review Special Topics - Physics Education Research*, 4(1), 1-14.
- Shooshtari, Z., & Karami, N. (2013). Lexical collocation instruction and its impact on Iranian non-academic EFL learners' speaking ability. *Journal of Language Teaching and Research*, 4 (4), 767-776.
- Sim, C. (2006). Preparing for professional experiences – incorporating pre-service teachers as 'communities of practice'. *Teaching and Teacher Education*, 22, 77-83.
- Smithson, L., & Nicoladis, E. (2013). Verbal memory resources predict iconic gesture use among monolinguals and bilinguals. *Bilingualism: Language and Cognitive*, 16(4), 934-944.
- Demir, Ö. E., & Goldin-Meadow, S. (2010). When speech is ambiguous gesture steps in: Sensitivity to discourse-pragmatic principles in early childhood. *Applied Psycholinguistics*, 31, 209-224
- Soozandehfar, S. M. A. (2017a). Semiotic mediums of meaning-making in oral reproduction course in TEFL. *Research in English Language Pedagogy*, 5(1), 1-16

- Spranger, T., Schatz, T. R., & Knopf, M. (2008). Does action make you faster? A retrieval-based approach to investigating the origins of the enactment effect. *Scandinavian Journal of Psychology*, 49(6), 487-495.
- Strauss, A., & Corbin, J. (2011). *Basics of qualitative research: Techniques and procedures for developing grounded theory*. Sage Publications.
- Tammy, G., Olivares-Cuhat, G. & S. John, (2009). An examination of L1 and L2 gesture use: What role does proficiency play? *Modern Language Journal*, 93, 195-208.
- Tellier, M. (2008). The effect of gestures on second language memorization by young children. *Gesture*, 8, 219-235.
- Thompson, T., & Simmons, N. (2015). *American family and friends*. Oxford University Press.
- Vittorio, G., & Lakoff, G. (2005). The brain's concepts. The role of sensory-motor system in conceptual knowledge. *Cognitive Neuropsychology* 22, 455-479.