

Learning English Auxiliary Modal Verbs by Iranian Children

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Abstract

Modal verbs in English are challenging to learn by speakers of other languages. The purpose of this was to shed light on the use of gesture in learning English modal verbs by Persian-speaking children. To achieve this, 60 elementary Iranian learners, studying at some institutes in Karaj took part in this study. The participants were randomly put into one experimental group and one control group. The experimental group were taught English modal verbs through gesture, but the control group through their books based on pictures. Data were analyzed through a t-test to test the hypotheses raised in the study. The results highlight the value of gesture in teaching modal verbs to Persian-speaking children. Moreover, to investigate whether or not there were any significant relationships between spatial and kinesthetic intelligences and the ability to learn modal verbs, a Pearson correlation procedure was used. The result supported the significant relationships between spatial/ kinesthetic intelligences and learners' performance in learning English modal verbs.

Key words: English modal verbs, Gesture, Spatial intelligence, Kinesthetic intelligent

Introduction

Difficulties involved in learning modal verbs are not a new subject in the field of language. All of the auxiliary verbs apart from be, do and have are called modals. Unlike other auxiliary verbs, modals only exist in their helping form; they cannot act alone as the main verb in a sentence. The modal auxiliary verbs are always followed by the base form. An aspect of English that troubles many learners is the correct use of the modal verbs – must, can, should, ought to, might, etc. The difficulties are of two types – firstly, there is the difficulty of learning, and secondly, choosing the correct modal to express the meaning that you want to convey. The aspect of modal auxiliaries, which is going to take the most focus of this study, is the difficulty of learning modal verbs.

The frequency of contracted modal verbs in spoken English is noticeable, but their frequencies in written forms English and textbooks are more or less similar. Studies show the modals “can” and “will” are the most frequent modals in textbooks (Debbie, 2009). On the other hand the frequency of modals in spoken English and textbooks are somehow the same. English textbooks do not teach learners to use contracted modal verbs, which are very common in spoken English. .

English modal verbs consist of two groups of meanings: epistemic and root (Fleischma, 1982). Deontic modals “have to” and “need to” accord with “must” considering meaning (Tagliamonte and D'Arcy, 2007). Deontic modals which are referred to as permission/ability/obligation later are grouped as epistemic modals which are related to possibility/necessity (Fond 200).

Scarabnia (2006) studied the acquisition of modal verbs by learners which revealed that modal verbs are learned in different ways. The results showed five sorts of activities which were used in teaching and learning modals and which helped learners to memorize modals. 1. Pupils must understand grammatical items, 2. Making sentences by the use of modals, 3. Choosing suitable modals, 4. Rewriting sentences by the use of modal verbs, 5. Filling the gaps with proper modals. Memorizing the meaning of modals can be boring; so the best way to help and encourage students to learn is by presenting them interesting and stimulating exercises (Scarabnaia, 2006).

Learners need to be informed about different ways of conveying meanings (Hassan and Perrett, 1994). According to Carretero et al (2007) there are four kinds of modality: a) Epistemic, which is related to possibility b) Deontic, which is referred to as force and obligation c) Dynamic, which is related to ability d) Boulomaic, which is related to wish.

In a study by Scarabnia (2007), bilingual children aged 6-10 were given a test with production and grammar study for English verb morphology. In the results it was revealed that ‘exposure, complexity and task type’ affected the way that bilinguals approach monolingual standards. These results accord with Gathercole's (2007) constructivist model. Children that learn two languages face more flexibility in the input that they receive comparing with monolingual children. Researches have shown, bilingual children have some delays in acquisition in comparison with their same aged monolinguals. Gathercole (2007) suggests that children's first generating of true morphemes are not productive but rather are the result of item-based learning'. Root modals and epistemic modals have the

same difficulty level because they both are related to syntactic form. But considering semantics in one test it was shown that Chinese learners did better on the epistemic meanings comparing with root meanings, and this finding is the opposite of what Papafragou (2002) has suggested. So it is not wise and recommended to follow previous studies without thinking and examining them.

Modality is speaker's choice of evaluation and judgment of what to say (Palmer 1979. El Hassan 1990). Palmer modifies his former model into: denotic, epistemic, and dynamic. All modals are followed by base form of verb, apart from will/shall. Epistemic modality is subjective. SHALL is used to express: prediction willingness, asking for instruction, order, intention, insistence, promise, threat. WILL is used to express: future, willingness, promise, volition, insistence, order, habit, request. CAN is used to express: ask for permission, offer, rule, request, ability, possibility, habit, suggestion. COULD is used to express: permission, request, offer, ability, possibility, suggestion, imaginary situation, in reported speech. MAY is used to express: possibility, ask for permission, request, possibility. MIGHT is used to express: possibility, ask for permission, request, in reported speech, suggestion. MUST and HAVE (GOT) TO are used to express: force, necessity, urge, request, prohibition. SHOULD and OUGHT TO are used to express: force, suggestion, giving advice, demand, in reported speech (Hussein Abdul-Fattah, 2011).

Second language learners are different comparing: age, learning style, their motivation and experiences. A search has been done about the acquisition of English morphology in second language learners and it was found that no informant has acquired the full range of English morphology. The findings include: a) SL learners' proficiency level will enhance if they are set in beneficial environment b) Being exposed to language is not adequate for development c) Formal teaching the structure is useful in learning outcome. Many course books offer grammars. As Widdowson suggests usage as the skill to show our knowledge of language (1978, p.3). Choosing modality helps to keep interpersonal communications. It is important to know why grammatical structures are used in different contexts and how they form discourse.

Learning modal verbs does not happen overnight. As variables we can point to independent variables that are: Pictures and Gestures, and dependent variables which are: learning modals by children, can be studied as another variable.

Statement of the problem and significance of the study

A large number of articles and books have been written about techniques for teaching different language skills, but there are not as many studies on learning modal verbs by children. Modals are important, because they form tenses and alter the meanings of sentences to show necessity, demand, strong deduction, recommendation, permission and desire. Modals can express ideas of ability, permission, and polite questions and statements. Since modal verbs express a wide range of meanings, it is essential to use them correctly to be confident using language. This is actually very important for communicating properly particularly in academic and business situations.

Research Questions

The questions which are posed in this study are as follows:

- 1) Does the use of gestures affect the learning of English modal verbs by Iranian EFL children?
- 2) Are there any significant relationships among spatial/kinesthetic intelligences and the ability to learn English modal verbs through the use of gesture?

Kinds of modality

There are two main types of modality including epistemic and deontic. Intrinsic, root, non-complex or intra-propositional modality are the other terms used by different linguists for epistemic and deontic modality.

Deontic modality

The word deontic is derived From the Greek term of “obligation”. In this case, deontic modality refers to term used with obligation and permission meaning which itself refer to authority and judgment of the speaker respectively. In the other words, deontic modals focus on the influence realization of actions or situations (Huddleston 2002, 54)

- (1) *She must wear a helmet.*
- (2) *She may leave the home.*

Epistemic modality

The word epistemic derives from the Greek word “knowledge”. Epistemic modality focus on the degree of possibility, necessity or prediction of an action.

- (1) *It must be raining over there. (90%)*
- (2) *It may be raining over there. (70%)*
- (3) *It might be raining over there. (60%)*
- (4) *It can't be raining over there. (10%)*
- (5) *It's raining over there. (100%)*

Epistemic/deontic contrast

Modal verbs can have both epistemic and deontic meanings. Epistemic modality is focused on the matters of knowledge, belief or opinion while Deontic modality is concerned with the necessity or possibility of acts performed by morally responsible agents.

The following sentences shows whether they can be interpreted with meanings of possibility, probability and necessity or with permission, obligation and requirement:

- (1) *She may leave tomorrow.*

In this sentence, the speaker meaning is being true (Perhaps she will) or permission (she is permitted).

- (2) *The book should be in the garage*

Here the speaker means either that the car is probably in the garage, or imposes obligation (It's proper place is in the garage).

- (3) *He must be at home now.*

In this case, the speaker meaning is obligation (He is obliged to be at home) (Palmer 2002, 19)

According to Quirk meanings represented by modal verbs can be divided into two groups although Quirk uses different terminology for modal meanings (intrinsic and extrinsic)

1) Deontic modality

- Permission (can/could, may/might)
- Obligation (must, have to, should, ought to)
- Volition (will/would, shall)

2) Epistemic modality

- Possibility, ability (can/could, might)
- Necessity (must, have (got) to, ought to)
- Prediction (will/would, shall)

Quirk states that the modals meaning can be greatly changed among different languages such as American, British English and other English speaking world regions (Quirk et al. 1989, 219 - 220)

Classification of Modal verbs

According to Quirk, there are 6 categories of verbs which express modality at some degree in the scale between modal and main verbs. These are: central modals, marginal modals, modal idioms, semi-auxiliaries, catenatives and main verbs with non-finite clause (Quirk et al. 1989, 137).

In the following section, the possible meanings and description of particular modals, as well as the frequency across registers will be discussed.

- (a) Central modals can, could, may, might, shall, should, will, would, must
- (b) Marginal modals dare, need, ought to, used to
- (c) Modal idioms had better, would rather/sooner, be to, etc
- (d) Semi-auxiliaries have to, be about to, be able to, be bound to, be going to, be obliged to, be supposed to, be willing to, etc
- (e) Catenatives appear to, happen to, seem to, get + -ed, keep + -ing, etc
- (f) Main verb + hope + to, begin + -ing, etc nonfinite clause

Gesture

Recently, gesture has become the focus of attention of many scholars. It may be easily defined as hand or hands movement developed by people (Tellier, 2009). According to Grischin (2011, gesture is considered as the mobility of body in reduced structure which is carried out by body members. According to Alibali et al., 2000; Göksun, et al., 2009; Kelly et al., 2008; Studdert-Kennedy, 1993, gesture especially hand movement in school context is considered as useful tool and enhance both concrete and abstract concepts. It is assumed that body movements' effects are better than remembering things (visual modality). Iverson and Goldin-Meadow (2005) believed that children can use hands movement to convey their meanings when they are not able to utter by words.

Tellier (2005) states that the gesture of teachers can help children to learn the second language vocabularies by heart. It is assumed that there is a direct relation between the body movement and acquiring knowledge. Therefore, people's gestures are linked with their feelings, sayings and activities in which losing body movement means to lose aspects of discourse (Goldin-Meadow & Wagner, 2005; Iverson & Goldin-Meadow, 2005; Studdert-Kennedy, 1993). In other words, without gesture learning is incomplete.

A Historical overview on gesture

The historical overview of gesture dates back to the late 60s when Asher presented the Total Physical Response (TPR). In this method, learners respond to teacher's instruct and simultaneously learn in relax situations. Subsequently, the Natural approach supported Asher's method and action as a teaching tool. In fact, the use of gesture dates back to about 40000 years ago in Europe.

Gesture becomes more popular among teachers because it has significant role in speaking. According to Gentilucci and Corballis (2006), the advent of the significance of gesture among rationalists was in 18 century.

Theoretical foundation of gesture

Asher (1966) propose three main hypotheses which are focused on TPR or the combination of speech and body movement. The first hypothesis is that language learning happens through listening and is internalized when learners utilize body movements in order to respond to instructions. The second hypothesis, according to Asher is that human right hemisphere involved in productive language learning; moreover, the right hemisphere controls human body movements. Therefore, these two, i.e. language and movement, make language acquisition comprehensive. Asher's last hypothesis holds that language learning must occur in stress free environments. Thus, teaching materials along with physical movements reduces stress.

Tellier (2008, 2009) believed that the visual sense of the learners can be enhanced when they use gesture. In this case, three channels are requested: 1) *aural channel* that is supplied by the instructor sayings and mechanical drills; 2) *optical mode* is revealed via gesture and illustration; and 3) *kinetic channel* is creation of movements. All these three modalities come together to help children to learn and remember learning materials.

According to Cook and Goldin-Meadow (2006), the more the retention of teacher direction is, the more the amount of students gesture is. These finding supports the results of the theories state that using body movement in teaching curriculums can stimulates learners to be creative in making their own movements (Asher, 1966; Cook & Goldin-Meadow, 2006; Göksun, et al., 2009; Long & Robinson, 1998).

Gesture and speech are complementary components that make a combined network (Tellier, 2009). This theory is supported by two logics, as McNeil (1992) claims. Firstly, because there is unity of meaning between them in speech because of their mutual process of understanding; and secondly, as Studdert-Kennedy (1993) and Tellier (2009) believe, they are concomitant that happen simultaneously without interruption. Further, Alibali et al. (2000) present another hypothesis called information packaging hypothesis (IPH) which mentions gesture and speech work together as a combined organization.

Ibraheem and Khan (2012) conducted a study on the different techniques of understanding body movement, and found various factors for recognizing and gaining information conveyed by hand gesture. They add that recent and modern technologies for this are grouped *into vision based, instrumented (data) glove, and colored marker* methods, which are explained as follows:

Vision based technique: in this method a camera(s) is needed to trap the needed picture to help the normal relationship between man and computers.

Instrumented glove approaches: this method takes advantage of an instrument that is used to provide information named sensor to capture the location and movement of hand.

Colored markers approaches: these gloves or colored markers are those that human can wear. Hasan and Mishra (2012) add that these gloves are equipped with colors to help the researcher in following hands and fingers, which create the possibility to elicit essential patterns of lines and diagrams of hand shape. According to Grischin (2012), the postures of hand vary from up to down, front to back and crosswise. He classifies the movements in the direction of the body (proximal) or apart from the body of the performer of the gesture (distal). He believes that a large amount of the gestures are performed by right hand from side to side.

Levels of gesture

Language can be learned through gesture in four systematic stages. The first and *basic stage* is the level which considers gesture as a lexical item or word. The second stage is *classematic level* where gesture is related to meaningful sentences, clauses and paragraphs. On the third stage of divisions that is the *level of reproduced isotopics*, dramatics codes are classified; and on the last level, *totality stage*, language through gesture is considered in a story and narrative (Grischin, 2012).

Some scholars believe that children categorize items in three groups: *just speaking* (i.e., solely get advantage of vocabularies and among them just words), *just movement* (i.e., in order to utter things, they only use body movement), or *combination of speaking and movement* (i.e., as it is clear for expressing benefits from these two together (Asher, 1966; Butcher & Goldin-Meadow, 2000; Goldin-Meadow, 2003; Iverson & Goldin-Meadow, 2005; Tellier, 2009).

Research on the role of gesture in learning

Tellier (2008) declares that several studies have been done about the role of body movement in learning second/foreign language (L2). Additionally, Tellier (2005) mentions that up to the present some fundamental characteristics of gesture have been explored through studies, such as: *director* of the classrooms who is the beginner of any activity, asks students things, makes them silent, wholly monitors everything in the classroom; *progression* that is used to indicate the learners' errors, corrects and encourages them; and *clarification* which provides suggestions on grammar, emphasizes especial words and sentences features such as tone, rhythm; additionally introduces and deciphers lexicon, etc.; He adds that body movement has divergent models: gestures done by hands, speaking with face, acting something out without speaking, body motion, etc.

Ibraheem and Khan (2012) claim that using hand by human beings makes gesture a speech technique; compare with other parts of the body hands are unrestricted and also for various technologies such as computers its movement is more recognizable.

If gesture helps learners to learn even abstract concepts and postpones forgetting, then we can claim that it has widespread privilege specifically in teaching instruction (Macedonia & Von Kriegstein, 2012; Ping & Goldin-Meadow, 2008; Studdert-Kennedy, 1993; Tellier, 2009).

Moreover, many language instructors and teachers confirm the positive effect of gesture on learners' memorization (Asher, 1966; Göksun, et al. 2009; Macedonia & Von Kriegstein, 2012; Tellier, 2008; Tellier, 2009). Some scholars declare that gesture simultaneously benefits from two senses of the learners, i.e., their aural and imagination in transferring teaching material while discourse and speaking do this in an explicit way.

Indeed, using body motion through teaching guarantees transferring abstract concepts (Goldin-Meadow & Wagner, 2005; Macedonia & Von Kriegstein, 2012; Ping & Goldin-Meadow, 2008; Tellier, 2009).

Research on the role of gesture on language learning

Gestures, especially hand gestures, are a way of transferring human being's feelings and thoughts among people without a common language. In a broader view it could be integrated with pedagogical instruction in order to assist teachers and learners in better teaching and learning.

Additionally, Cook and Goldin-Meadow (2006) believe that children at schools focus on their teacher follow their gestures and copy them to learn better thus, this is astonishing findings about gesture. Indeed, other researchers report that body movement is an influential tool that enhances learners' grasping of new instruction and learning language (Asher, 1966; Goldin-Medow, 2003; Göksun et al. 2009; Macedonia & Von Kriegstein, 2012; Tellier, 2009).

Moreover, Tellier (2005), believes that in L2 classes, instructors' attitudes differ from what they do in the classes where the language of teaching course is in the learners' mother tongue: they speak more slowly and take care of their articulation and pronunciation in each word they utter to ensure that the learners comprehend them in the best possible way; therefore, they benefit from body movement.

Furthermore, gesture studies reveal that younger children benefit from pointing or representational gestures in speaking and this stimulates them in utilizing gesture to convey their meaning, as well (Alibali et al. 2000, Cook & Goldin-Meadow, 2006; Göksun, et al., 2009; Macedonia & Von Kriegstein, 2012; Tellier, 2009).

Methodology

This study aimed at investigating how modal verbs are learned by non-native students. This section describes the research design used in order to conduct the study. It will also introduce the participants, the procedure, and the procedure used to analyze the data.

Participants

The participants included two groups of 40 Persian speaking children aged 7-10 year olds and took English course in an institute. Each group has 20 participants. The participants did not have an experience of a travel to a foreign country specially the countries that speak English as their first language.

Procedure

The learners took an English course of 6 sessions, and each session lasted for 1 hour. The sessions were held three days a week. Both groups had the same teacher and the selected material was new for both of the groups. English modal verbs were taught to the first group using gestures in one class and pictures in another. At the end of the class the learners took a test. Comparing the results of the tests showed how much the learners have learned.

Investigation of the first research question

The research question attempted to see whether gesture affects learning English modal verbs by EFL learners. To answer this question, an independent samples t-test was run to compare the experimental and control groups' mean scores. Descriptive statistics including the mean, standard deviation, etc. are summarized in Table 1.

Table 1. Descriptive Statistics by 1

Group	N	Mean	Std. Deviation	Std. Error Mean
Experimental	20	20.38	3.585	.567
Control	20	14.40	4.871	1.089

As displayed in Table 2 the mean scores for the experimental and control groups are 20.38 and 14.40, respectively. That is, the mean of the experimental group (mean=20.38) is higher than the mean of the control group (mean=14.40). To see whether or not the difference between the means is statistically significant, an independent samples t-test was run. The results are given in Table 2.

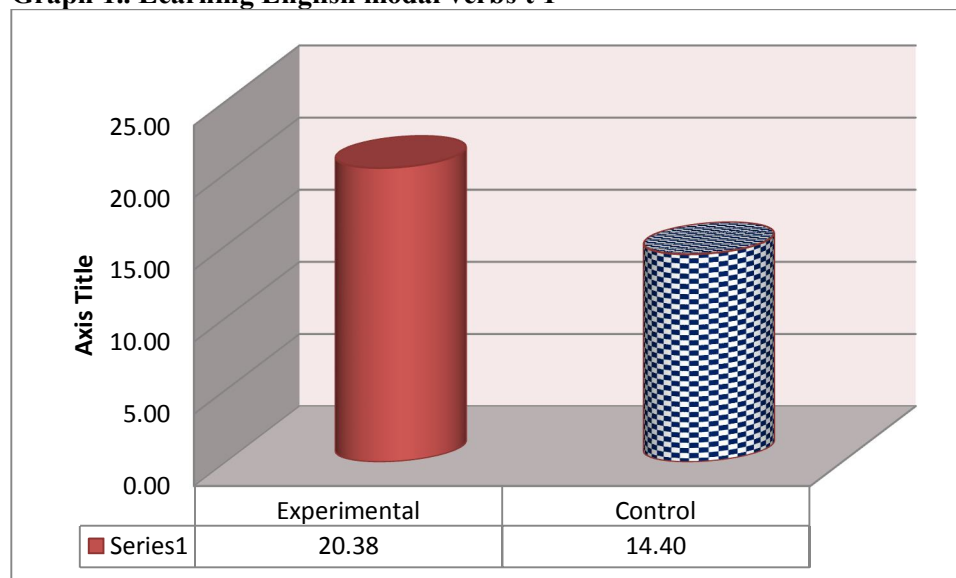
Table 2. Independent t-test 1

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	2.981	.090	5.385	58	.000	5.975	1.110	3.754	8.196
Equal variances not assumed			4.866	29.630	.000	5.975	1.228	3.466	8.484

The results of the independent samples t-test ($t(58) = 5.38, P = .000 < .05$) indicate that there is a significant difference between experimental and control groups' mean scores. Thus, it can be concluded that the null-hypothesis is rejected. The experimental group after receiving the treatment through gesture outperformed the control group on modal verbs test.

It should be noted that the assumption of homogeneity of variances is met (Levene's $F = 2.98$, $P = .090 > .05$). That is why the first row of Table 2, i.e. "Equal variances assumed" is reported.

Graph 1.. Learning English modal verbs t 1



Graph 1 Clearly shows that there was significant difference between the experimental and control group after administering the treatment.

Investigating the second research question

The second research question aimed to see whether there is a relationship between spatial and kinesthetic intelligences on the one hand and the ability to learn modal verbs through gesture. To this end, the Pearson correlation procedure was run. The results of the correlation procedure are given in the following tables.

Table 3. Results of Pearson Correlation between spatial intelligence and the ability to resolve lexical ambiguity.

Spatial intelligences	Pearson Correlation	1	0.634**
	Sig. (2-tailed)		0.003
	N	20	20
Ability to learn modals	Pearson Correlation	0.634**	1
	Sig. (2-tailed)	0.003	
	N	20	20

*Correlation is significant at the 0.01 level (2-tailed).

As it is seen in the above table, the significant value of Pearson Correlation is 0.003 which is smaller than 0.01 ($0.003 < 0.01$). It shows that there is statistically significant relation between spatial intelligence and the ability to learn modals.

Also, the results of the relationship between kinesthetic intelligence and the ability to learn modals is presented in Table 3. As it is obvious in this table, the significant value of Pearson Correlation is 0.002 which is smaller than 0.01 ($0.002 < 0.01$). It indicates that there is statistically significant relation between kinesthetic intelligence and the effect of gesture on learning modals.

Table 4. Results of Pearson Correlation between kinesthetic intelligence and the ability to learn modal verbs

kinesthetic intelligences	Pearson Correlation	1	0.534**
	Sig. (2-tailed)		0.002
	N	20	20
kinesthetic intelligences	Pearson Correlation	0.534**	1
	Sig. (2-tailed)	0.002	
	N	20	20

*Correlation is significant at the 0.01 level (2-tailed).

Based on the above statements, the null hypothesis of this study that suggested there is no significant relationship between spatial and kinesthetic intelligence the ability to modal verbs is rejected.

Discussion

The present study was designed to investigate the effect of using gesture on learning English modal verbs among EFL students.

The research question in the present study focused on the importance of using gesture in learning English modal verbs by EFL learners. The results provide fairly strong support for the effect of gesture. Many studies have been conducted on modal verbs, but there are a few studies on using gesture in facilitating this process.

Concerning the use of gesture in teaching Göksun et al. (2009) believed that adults use gesture as a complementary aid in order to convey their meaning. Further, findings of the present study are compatible with the notion that gesture plays an important, facilitative role not only in the learning process, but in the cognitive aspect of this phenomenon, as well (Broaders et al. 2007; Cook & Goldin-Meadow, 2006; Göksun et al. 2009; Holler & Beattie, 2005; Kidd & Holler, 2009; Tellier, 2009).

In accordance with the result of the present study Gentilucci and Corballis (2006), claimed that speech is almost always accompanied with hand movement. Therefore, the role of manual gesture in speech development is significant.

The result of the present study is consistent with previous studies (Cook & Goldin-Meadow, 2006; Tellier, 2005; Tellier, 2008) which have shown that teaching instruction plus utilizing gesture enhances, encourages, promotes and facilitates learning.

In addition, the findings of the present study corroborate those of Göksun et al. (2009) who reported how gesture assists and completes children's communication in producing an effect or causation.

The findings of the present study extend those of previous studies in that they support observation that gesture could be utilized to assist learning. Furthermore, numerous studies have proven that gesture bears positive impact on comprehension (Alibali et al. 2000; Broaders et al. 2007; Butcher & Goldin-Meadow, 2000; Cook & Goldin-Meadow, 2006; Kidd & Holler, 2009).

At the same time, Holler and Beattie (2003) found the same result in accordance with the present study in homonym disambiguation through gesture. Krovetz and Croft (1992) a found that useful way for disambiguation is lexical co-occurrence. This is supported by the findings of the present study.

The study of Alfawareh and Jusoh (2011) on resolving lexical ambiguity is in partial accordance with the present study, as they considered verb and noun ambiguous, in their study, while in the present study only modal verbs were taken into account. At the same time, it is in contrast with the present study in the approaches used, that is, they utilized fuzzy approach and context knowledge in order to disambiguate, but the focus of the present study was on gesture.

According to Kelly et al. (2008), gesture could be used in teaching curriculum, a suggestion which is supported by the findings of the present study. Moreover, it can be concluded that the proposed technique, i.e. using gesture, can be used to resolve lexical ambiguity, as an effective way in language classrooms.

Various sources of information such as lip and eye movement as Harely (2008) suggested, can be used in comprehension; therefore using gesture in teaching curriculums as a teaching aid will promote learning, specifically in learning and comprehending ambiguous words.

Harely (2008) introduced cross-modal tasks as activities which affects word priming. In this task learners are presented with teaching points and then they see them emphasizing the use of tasks like this is in line with the finding of this study that utilizing gesture may result in better word recognition and facilitate learning.

Regarding the advantages of gesture in teaching instruction, it seems crucial to be noted that as Brown (1941) noted human brain is divided in two hemispheres; namely, right and left hemispheres which the right part is responsible for visual and auditory images and the left part is associated with logical, mathematical and analytical information processing.

Additionally, he believed that people with left brain dominance answer verbal questions may not be professional in body language interpretation, but people with right brain dominance are good at remembering images and interpreting body language.

In sum, as these two parts of the brain work together and complete each other's duty, it can be concluded that through utilizing gesture as body language in teaching instruction, teachers dual channels (gesture plus verbal instruction), as Tellier (2005) named it motor-modality, in order to enhance learners in thinking, analyzing, illustrating, remembering, interpreting, recognizing, recalling and learning teaching material better; therefore, it is beneficial for teachers who want to help their learners to learn second language and teaching curriculum that has not been taken into consideration by other previous studies.

Summary of the findings

Addressing the research questions of this study, the following null hypotheses were tested:

The use of gestures does not differentially affect the learning of English modal verbs by Iranian EFL children. In addition, there is no significant relationship between spatial and kinesthetic intelligence the ability to learn modals.

Based on the obtained results, the mean differences showed that there is a significant difference between the experimental and control group. It means that the students in the control group, ($M = 14.40$ and $SD. = 4.87$) had reached to the higher performance than the experimental group ($M = 20.38$ and $SD. = 3.58$).

Therefore, the null hypotheses of this study suggested the use of gestures does not differentially affect the learning of English modal verbs by Iranian EFL children was rejected.

Regarding the relationship between spatial intelligence and the ability to learn modals, the results of this study shows that spatial intelligence as a variable had significant relation (0.003) with the ability to learn modals.

In addition, the correlation coefficient of kinesthetic intelligence and the ability to learn modals (0.002) showed that there are statistically significant relationships between these two variables.

Therefore, the second null hypotheses of this study suggested there is no significant relationship between spatial and kinesthetic intelligence the ability to learn modals.

Pedagogical implications

This study, like other studies, has some implications for different individuals including EFL teachers, researchers, and curriculum designers.

EFL teachers can use such findings in a pedagogical context. More specifically, the findings emphasize on the factor which affects misunderstanding of using different modal verbs. Investigating the trend of growth in the acquisition of the modal verbs emphasizes the critical importance of the teaching instructions. It also help language teachers to make decisions to use gesture as a ways to promote the acquisition of modal verbs among EFL learners.

Moreover, the findings of this study may have important implications for curriculum designers and researchers. As a result of this study, more areas of research can be recognized in order to help curriculum designers understand the considerable changes of learning environments and their impact on teaching pedagogy. Also, curriculum designers can allocate more space in their course books to the modal tasks which teachers can use gesture as their teaching instructions.

Suggestions for further research

Future researches can seek to answer several issues that are still not being investigated in this study.

First, as the focus of this study was on modal verbs, other studies can be investigated on the other types of verbs.

Second, as the number of participants was limited into two groups with 20 EFL learners, other studies can be done with more participants.

Third, as all participants of this study were Persian speaking children who aged 7-10 years old, future studies can be done with intermediate and advanced level participants to see whether the results are different or not.

Fourth, as gender was not considered as a variable in this study, future studies can be done just by male and female participants or both of them simultaneously in order to understand whether there are any differences between the results of male and female participants.

Fifth, as the participants of this study were EFL learners and the results could not be generalized to ESL contexts, further studies can consider this issue and choose ESL participants for future investigations.

Last but not the least, further studies can be done on students whose first languages are not Persian and studied English for specific purposes to see whether the results are the same.

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