Long-term Utilization of Interaction by Young EFL Learners: The Effects of Strategy Training

Mohammad Mahdi Hajmalek [1*], Ehsan Majidifard [2], Omid Rikhtegar [3]

[1] *Khatam University, Department of English Language, Tehran, Iran*
[2] *Allameh Tabataba'i University, Tehran, Iran*
[3] *Iran Language Institute, Urmia Branch, Urmia, Iran*

Abstract: The bulk of research within the interactionist framework seems to be consensually pointing to the beneficial effects of interaction in SLA. However, few studies have investigated the role of training in providing and perceiving interactional feedback, especially among young learners. This study probed the effects of training prior to engagement in interaction in case of young learners acquiring polar questions in an EFL context. Sixty learners aged 9-14 in three intact groups were exposed to instruction followed by peer interaction in case of the experimental groups while the control group simply received traditional teacher-fronted practice. Also, while one treatment group received prior training in interactional feedback strategies, the other group did not. The pre-test, immediate post-test, and delayed post-test were administered. The results of mixed between-within subjects ANOVA (SPANOVA) showed that engaging in interaction, regardless of any prior training, could significantly improve learners' immediate mastery over the target form. However, in the long run, only the group trained in feedback strategies could maintain its superiority over the control group. The findings suggest that although engaging in peer interaction can be beneficial for young learners, sustained interlanguage development can result only if learners are trained in feedback strategies.

Keywords: Interaction; Interactional Hypothesis; Young Learners; Peer Feedback; Strategy Training.

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[*] **Corresponding Author.**

Authors' Email Addresses:

[1] **Mohammad Mahdi Hajmalek** (m.hajmalek@khatam.ac.ir), [2] **Ehsan Majidifard** (e.majidifard@gmail.com), [3] **Omid Rikhtegar** (omid.rikhtegar2000@gmail.com),

Introduction

Interaction has attracted a great deal of attention in studies of Second Language Acquisition (SLA) ever since the traditional enthusiasm with the exaggerated role of input began to be challenged. This trend was launched with a series of pioneering studies by Long (1981, 1983) who analyzed the talk directed to L2 learners by native speakers (NSs) and the interaction in which they engaged. While acknowledging the *necessity* condition for input, new findings started to contradict the *sufficiency* condition for input as implied by, among others, Krashen's input hypothesis (1982). Schmidt (1990, 1993), for instance, proposed that the mere exposure to input may not be beneficial unless "noticing" occurs and input is transformed into "intake" or is "consciously registered" (p.130). Therefore noticing, defined as "the mechanism by which learners, after sensitization to a particular structure, spot such structure (or its absence) in subsequent natural input" (Fotos, 1993, p. 383) is speculated as a pre-requisite for the process of language learning and a proposition to challenge the sufficiency condition for input. Another trend which questioned the dominance of input in the field of SLA in 1990s was Swain's (1995) Output Hypothesis which was intended to shift the focus from the adequacy of input to the benefits of output, encompassing a learner's production. Swain (1995, 2000) highlighted the role of output as a supplement to input.

Finally, building on the arguments put forth by Schmidt (1990, 1993), Swain (1995), and earlier interactionist research, Long (1996) presented an updated version of his Interaction Hypothesis (Long, 1983), forming another building block in arguments endeavouring to improve or redefine the notion of input in SLA. Among different accounts of SLA processes that have been put forward in recent decades, the Interaction Hypothesis (Long, 1996) emphasizes the strong connection between learners' engagement in conversational interaction and second language acquisition based on negotiation of meaning. According to Richards and Schmidt (2002), this hypothesis claims that "the language acquisition requires or at least greatly benefits from interaction, communication and especially negotiation of meaning, which takes place when interlocutors attempt to overcome problems in conveying their meaning, resulting in both additional input and useful feedback on the learner's own production" (p. 264). As Garcia Mayo and Alcon Soler (2013) remind us, the process of acquisition is held to be facilitated by a learner's participation in meaningful conversational interaction with other learners or native speakers, featuring several instances of conversational and linguistic adjustments where "these adjustments were not unique to learner discourse but were significantly more numerous in instructional

environments" (p. 221). Long (1996) had already suggested that those adjustments might play a role in interlocutors' provision of comprehensible input. In fact, enhancing comprehensible input, encouraging modified output, and exposure to corrective feedback are very often summarized as the main reasons why interaction and negotiation of meaning can lead to learning (García Mayo & Lazaro Ibarrola, 2015). This is compatible with the claims that both positive and negative evidence are necessary for interlanguage development, particularly when the negative evidence is in form of corrective feedback provided within an interactionist framework and serving meaning and meaningful communication (Leeman, 2007). The next section elaborates on these aspects, reports on the body of empirical works, and discusses the dearth of research on child interaction in SLA to demonstrate how needy this area of research is, especially in an EFL context.

Background

The field of SLA has been through a vivid history since the proposal of input hypothesis by Krashen in 1987. The input hypothesis along with Long's emphasis on the role of engagement in conversation with native speakers in the acquisition of a new language (Long, 1983) opened a new pathway in second language research: the study of interaction. Varonis and Gass (1985) suggest that "the modified interactions found in conversations between native speakers and non-native speakers are the *sine qua non* of second language acquisition" (p. 71). Long (1981) asserts that participation in conversation with native speakers made possible through modification of interaction, is the necessary and sufficient condition for SLA.

Since its introduction to the field of SLA, the study of interaction has developed a great number of new dimensions and has evolved vastly in its nature. Mackey (2007) reminds us that the questions addressed in interaction research today are now "qualitatively different" since it has "carved out an initial area of inquiry" and "it has now come to the point where researchers are contemplating the scope of the area" (Mackey, 2007, p. 1). As Mackey (2006) suggests the study of interaction is no longer limited in scope to its beneficial effects since its usefulness has been already established in the literature. In fact, the nature of the question has shifted from "does interaction work" to "how it works". Mackey goes one step further by arguing that Interaction Hypothesis is now closer in characteristics to a *theory* rather than a *hypothesis*.

In this regard, a number of studies have been conducted to delve into the role of interaction and pinpoint the ways in which it benefits the learners (see Mackey, 2007, pp. 3-6 for a partial list). As a result of such research, interaction is now claimed to enhance learners' interlanguage development based on a number of arguments. First, engaging in interaction facilitates the process of input enhancement by giving and receiving feedback. Long (1996) believes that children do not learn the grammar first and subsequently start to talk. Rather, children benefit from the interactive nature of communication and the feedback they receive from more competent speakers (in this case adults) when speech has already begun. This is argued to be similarly the case when learners engage in face to face interaction, especially with native speakers, in which learners may benefit from the feedback they receive. In NS-NNS (non-native speaker) interactions learners may implicitly attend to the correct form of the structure which they use erroneously. This type of feedback is known as "recast" (Lyster & Ranta, 1997). By receiving this feedback, learners benefit from enhanced input which leads to noticing the intended target form and facilitates the process of acquisition. Second, it enhances the saliency and frequency of targeted forms. According to Mackey (1999), when learners engage in interaction, they implicitly and naturally face numerous instances of the target form. This is where "Input Enhancement" occurs as an attempt to make a certain linguistic form salient to L2 learners by manipulating characteristics of input (Sharwood Smith, 1991, 1993) which in turn leads to the noticing of those features. By providing recasts and consequently increasing the saliency of certain input features, learners 'notice' the target form and SLA processes are facilitated.

Swain's (1985, 1995) Output Hypothesis provides yet another argument to support the role of interaction in the acquisition of a second language. This hypothesis views output as the manifestation of learning process whose benefits to learners are three-fold: noticing/ consciousness raising, discovery and hypothesis testing, and finally reflection as a metalinguistic function. The language provoked as a result of the aforementioned functions is referred to as pushed output and helps learners revise their interlanguage (Swain, 1995). Output can also "serve a consciousness-raising function by helping learners to notice gaps in their interlanguage" (Ellis, 2003, p. 49). Here, the role of interaction is to facilitate the production of more and more output which can in turn lead to:

- noticing the gap in one's interlanguage (the difference between a learner's present competency and the target form),
- noticing the hole (what the learner doesn't know at all),

- negotiation of meaning for more clarification as in LREs (language related episodes)

The role of interaction in SLA seems to have been well established in the literature by turn of the century. A series of seminal studies including Lyster and Ranta (1997), Gass, Mackey, and Pica (1998), Mackey (1999, 2006, 2007, 2012), Ellis, Basturkmen, and Loewen (2001, 2002), Leeman, (2003), Ellis, Loewen, and Erlam (2006) and many others have already founded a strong argument in favor of interaction in language learning classes. As far as grammatical development (as one focus of the present study) is concerned, Mackey (1999), for instance, asserted how important active participation in interaction is in the process of form internalization. Yet, these findings had to be tested in a variety of environments and with younger learners as Polio and Gass (1998), Mackey and Oliver (2002), Mackey and Silver (2005), and many others called for. Perhaps the most relevant to the discussion of the present paper is the findings from a series of unique studies conducted by Oliver (1998, 2002, 2009). Though restricted to ESL contexts, Oliver's pioneering studies are the quintessence of interactionist framework of research in child language learning.

Oliver (1998) studied 96 pairs of young children ranging from 8-13 in age by engaging them in conversational tasks. Interestingly enough, it was found that ESL children were capable of deploying interactional strategies of meaning negotiation including clarification requests, repetitions, and confirmation checks, however in a different proportion from that of their adult counterparts. Oliver (1998) concluded that engaging in interaction can lead to as beneficent outcomes in case of younger learners and this can be promoted by introducing tasks into such courses. In a later study, Oliver (2002) investigated whether nativeness and proficiency level of interlocutors played a role in the utilization of interaction by young pairs.

To this end, Oliver created three types of dyads by matching native speakers (NS) and non-native speakers (NNS) of English and engaged them in conversational tasks. The results revealed that NNS-NNS pairs created the highest quantity of meaning negotiation in their interactions while the NS-NS pairs engaged in the least amount of interaction. Following a similar pattern, level of proficiency significantly affected the amount of negotiation with higher proficiency students producing smaller amounts of interaction. On the whole, Oliver (2002) concluded that the more native like the interlocutors, the less amount of negotiation of meaning is produced and found an advantage for lower proficiency NNS-NNS pairs. Finally, Oliver (2009) probed whether younger children aged 5-7 are also capable of meaning negotiations in communicative tasks. The results indicated that not only did these children negotiate for meaning but also they employed the same type of strategies that the older cohort

did and provided feedback to their interlocutors. This arsenal of findings on the interactional behavior of ESL learners posits that adolescents and even younger children are both capable of and benefit from engaging in interaction and strategic negotiation of meaning.

Sharing a similar focus with the present study, Mackey and Silver (2005) investigated the development in young learners' question formation ability as a result of engaging in interaction with adult native speakers. For this purpose, 26 young EFL learners aged 6-9 in Singapore were assigned to two groups where the experimental group received feedback on their question formation mistakes while interacting with adult native speakers and the control group engaged in mere interaction without such feedback. The results indicated that the group receiving feedback during their interactions significantly outperformed the control group and feedback was a determining element in benefitting from interactional exchanges.

Philip, Walter, and Basturkmen (2010) examined whether young French learners noticed the form while engaging in peer interaction during role-play and discussion tasks. Philip et al. (2010) concluded that a number of task and social considerations affected the peers' attention to forms and their willingness to interact. In another study, Guillén (2012) investigated the role of interaction in developing the four language skills in case of young learners. The teaching techniques and the learning strategies observed in young learners' classrooms as well as the evidence-based practices reported in Guillén's study can be very revealing. Findings from this study proved that engaging in conversational interactions with teachers actually had a significant effect on children's internalization of the forms and mastering the four skills.

Other studies have taken a methodological perspective and focused on the mode of instruction following an interactionist framework. For instance, Huang (2011) investigated the effect of content-based language instruction (CBLI) on young EFL learners' attention, engagement, and eager volunteering, as well as classroom verbal interaction, generally termed as motivated behaviors. The results revealed that learners showed better tendency toward interactive and subject learning classes compared to traditional language-input classes. Sharing a similar instructional focus, Gunning and Oxford (2014) employed a mixed method design to check whether strategy instruction and use had any significant effect on interactional success of young learners of French performing oral tasks. The findings revealed that instruction was effective in enhancing strategy awareness and use in case of young learners and this, in turn, led to more successful interaction and task performance.

Lazaro and Azpilicueta-Martinez (2015) set out to identify the interactional strategies used by a group of sixteen 7-8 year old Spanish EFL learners who engaged in a guessing game task. Utilizing an interactionist framework, the study concluded that these young children do negotiate for meaning, however, much less than ESL adult and child learners. The findings also confirmed those of Oliver (1998, 2002) in that the type and frequency of conversational strategies employed by young EFL learners were different from ESL adult or child learners. The main point was that children were able to interact in English in order to accomplish the task and benefit from it in spite of having a very limited proficiency in the target language.

In another study, Garcia Mayo and Lazarro Ibarrola (2015) investigated the role of negotiation for meaning in task-based interactions among children in EFL and CLIL (Content and Language Integrated Learning) settings. To fulfill the purpose, eighty 8-11 year old children participated in the study and were paired to form 40 age- and-proficiency-matched groups (20 EFL, 20 CLIL). In order to identify the different strategies they used to complete the task, their oral production was analyzed. Findings proved that CLIL learners negotiated more and resorted to L1 less frequently than EFL learners. On the other hand, older children in both contexts showed a tendency to use their mother tongues in the class and to negotiate less. In general, the beneficial effects of interaction reported earlier in ESL contexts were confirmed for an EFL context. The results also corroborated the general trend identified by Oliver (2002) in that the amount of interaction reduced with an increase in learners' proficiency.

The present study aimed at continuing this line of research by establishing the connection between strategy training and interactional feedback for young EFL learners, the population most often ignored in interaction research. In fact, although as already asserted, the applicability of interaction and its beneficial effects have been largely supported in the literature of SLA (for some recent evidence see García Mayo & Alcon Soler, 2013; Mackey, 2012; Mackey, Abbuhl, & Gass, 2011; Pica, 2013) it seems that there have been few studies to investigate the utility of interaction in case of young learners (for some rare exceptions see García Mayo & Lazaro Ibarrola, 2015; Oliver, 1998, 2002, 2009). As Mackey and Silver (2005) and Garcia Mayo and Lazaro Ibarrola (2015) remind us, little empirical studies have been conducted to investigate the role of interaction among children while "SLA research should not be generalized from adult learners to children without adequate empirical evidence" (Mackey & Silver, 2005, p. 243). More importantly, seminal studies such as Oliver (1998, 2002, 2009) have focused on ESL settings and little evidence has been collected about

EFL children interactional behavior. Since young learners are believed to possess more limited cognitive abilities, working memory capacity, and attention span (Cochran et al., 1999; Mackey & Silver, 2005; Philip, Oliver & Mackey, 2008), it is probable that children are not as capable as adult learners in providing and receiving interactional feedback with their peers. Thus, this study sets out to investigate the effects of interaction on young EFL learners and examine whether it is possible to train them in exchanging such feedback. The study aims to point out if engaging young EFL learners in interaction with their peer NN learners of English has any significant effect on the grammatical development of their interlanguage and also it tries to find out if there is any significant difference between instructed and uninstructed interaction in terms of grammatical development in the interlanguage of young learners. That is, the study will investigate whether training young learners in social strategies of giving and receiving corrective feedback can significantly benefit them in making the most of interaction with peers.

Research Question

Does engaging in peer interaction with or without prior training in strategies of interactive feedback influence young EFL learners' ability to form accurate polar questions over time?

The Study

Participants

In order to answer the research question earlier put forth by the present study, 60 young adult English learners in a national language school in Iran were designated as the participants. The age of the cohort ranged between 9 and 14 years - late *elementary school* and *early adolescence* ages according to the classification by Philp et al. (2008) - with an average of 12.13. The participants were all male as a result of a single-sex educational system. Since a participant randomization was inconceivable due to administrative constraints, three intact classes comprising 20 students each were randomly assigned to one of the following conditions: the *Interaction with Training* group (IT), the *Interaction with No Training* group (IN), and the *No Interaction* or the *Control* group (CG). However, to make up for this shortcoming, all the classes were selected from the same level (the sixth one out of a thirteen-level system) representing roughly similar language proficiency levels. To ensure the homogeneity of the groups prior to the treatment, one way ANOVA was used to compare their achievement scores on the last term final exam as well as their performance on the pre-

test of the present study, which will be discussed in more detail later. The three groups displayed no significant differences in terms of their general language proficiency as measured by the final exam of the previous term *(F(2,57)=.38 , p=n.s.)* and their yes/no question formation ability as indicated by the results of the pre-test *(F(2,57)=.19 , p=n.s.)*. This built an argument to support the homogeneity of the three groups to begin with despite the non-random distribution of the participants.

Testing Instruments

The present study focused on the simple present yes/no question formation as an indicator of interlanguage development. Due to the unavailability of a formerly validated test of this particular grammatical ability for young English learners, the researchers were driven to write their own test with 30 items encompassing two types of question formation tasks. The test included 15 sentences to be transformed into yes/no questions and 15 answers for the students to write an appropriate polar question for. The test was initially piloted with a class of 18 students at a level similar to the main participants and a group of 5 instructors at the same school to locate any possible instances of ambiguity, ambivalence, or infelicity. Based on the feedback from these two groups, minor modifications were applied and some items were replaced or improved. Particularly, based on item facility and difficulty indices, the items which proved to be invariably easy or very hard were either eliminated or modified. Consequently, as a second piloting, the modified test was administered to a group of 39 students from two different proficiency levels (beginners and higher level students). Comparisons of the results of the test across proficiency levels using a t-test revealed that the test was adequately functioning in discriminating the beginners from a high proficiency group.

Once the first version of the test was ready, the items were slightly changed to create two more versions of the same test. For this purpose, the focus of each question was retained while the insignificant details such as the subject or the object of the sentence, adverbs of time and place, and alike were substituted. The outcome was three versions of the same test with 30 items each to be used as the pre-test, immediate post-test, and delayed post-test. To ensure that all three versions of the test were parallel, they were administered to 58 students at the same level in three different classes. Approximately one third of the students took one form of the test while the other fractions got the other two versions. Finally the results of a one way ANOVA indicated that there was no significant difference between the

performances of students from a similar proficiency level on all three forms of the test and they were statistically parallel (*F(2,55)=.66 , p=n.s.*). Furthermore, the reliability of the tests based on Cronbach alpha estimate of internal consistency was computed to be α1=85, α2=87, and α3=82 for the pre-test, immediate post test, and delayed post test versions respectively. Therefore, all three measures demonstrated high reliability for the purpose of the present study. These three forms were randomly assigned to the pre-test, immediate post-test, and delayed post-test situations.

Procedure

The treatment was devised to take as long as a single term comprising approximately 10 weeks during three months. Although the classes originally met two sessions every week, the treatment was planned to be delivered for about twenty minutes once a week. This reflected the prescribed syllabus of the institute which demanded explicit focus on form activities every other session. Being taught by the same instructor (one of the authors) all three classes followed exactly identical lesson plans. To begin with, one of the three test versions was randomly administered as the pre-test to all three classes. Following the pre-test, the three classes were randomly assigned to the IT (interaction with training), IN (interaction with no training), and CG (control group). All three groups were similarly presented with present tense structures focusing on the auxiliaries *be* and *can*, and a number of main verbs. Along with the teaching methodology prevailing at this school, a combination of inductive and deductive grammar presentation techniques was employed followed by ample drilling with the newly taught grammar in the context of the previously practiced structures. However, the IT and IN groups were given an opportunity to engage in peer interaction for twenty minutes after each grammar lesson under the close supervision of the instructor while the control group engaged in other individual activities.

To further distinguish the two treatment conditions, the IT group had received a one hour training session on giving and receiving interactional feedback on the first day of classes following a categorization of these strategies provided by Long (1983) and Lyster (2004). The learners in this group were particularly introduced to *recasts*, *elicitations*, *metalinguistic clues*, *prompts*, *repetitions*, and *clarification requests*. According to Lyster (2004) metalinguistic clues refer to comments, information, or questions related to the wellformedness of the student's utterance, delivered during interactional activities. Elicitations include the direct questions asked in the process of interaction. By repetition, we

mean repeating the student's wrong utterance with rising intonation and putting stress on the erroneous section. Clarification requests involve using some utterances to demonstrate that the student's sentence has either been misunderstood or ill-formed. The teacher made sure ample instances of each type of strategy was provided by interacting with individual students and strictly monitoring student interactions during this one hour workshop. Figure 1 illustrates some examples of the interactions exchanged between the teacher and students during this training session. These interactions were prompted by using several cue cards and encouraging the students to ask polar questions about the pictures. On the other hand, the IN group did not receive such training prior to the study and merely engaged in interactions with peer NNSs every week.

- Student: These tomatoes?
- Teacher: Are these tomatoes? (*Recast*)
- S: These are tomatoes?
- T: Are these tomatoes? (*Recast*)
- S: Are these tomatoes?

- S: Do the man likes sushi?
- T: The man? Do or does? (*metalinguistic clues*)
- S: Does! Does the man like sushi?
- T: Does the man …?? (*Elicitation*)
- S: Does the man like sushi?

Figure 1. Sample interactions during the training session

Upon the completion of the term, another version of the test was administered to all three groups on the day of their end of the term exam as the immediate post-test. Following that, the classes did not meet for approximately one month due to between-term and Iranian New Year holidays. Accordingly, the delayed post test was administered after about a month to all 60 participants which were by this time assigned to new classes. Each participant, including the ones who were repeating the previous term after failing it, was located in their new classes and was asked to answer the last test. The results from all these three test administrations were submitted to IBM SPSS for statistical analysis.

Analysis

Having administered the three parallel tests prior to, immediately after, and one month after the treatment, the scores obtained by all three groups were analyzed using a mixed between-

within subjects ANOVA or a SPANOVA (split plot ANOVA), as it is alternatively called, with a 3*3 design. The mixed ANOVA or the repeated measure factorial ANOVA allows for the simultaneous analysis of variability both between and within subjects by mixing regular ANOVAs with repeated measure ANOVAs (Tabachnik & Fidell, 2013). Furthermore, the advantage of this design is the ability to locate any possible interaction effects between the independent variables (IVs), here being the type of interaction and time. Since each of these two independent variables or factors had three levels, an analysis with a 3*3 design was produced. The levels of the between subjects IV (type of interaction) included *interaction with training*, *interaction with no training*, and *no interaction*. On the other hand, the levels of the within subjects IV included the three time intervals (pre-test, post-test, and delayed post test). Finally, the dependant variable (DV) was the scores of the participants on the polar question formation tests. A summary of the descriptive analysis of the group performances on each of the testing occasions is provided in table 1 below.

Table 1. Descriptive statistics of the group performances

	group	Mean	Std. Dev	N
Pre-test	IT	8.80	3.488	20
	IN	9.40	3.515	20
	CG	8.85	3.200	20
	Total	9.02	3.357	60
immediate post-test	IT	22.35	5.451	20
	IN	20.00	6.497	20
	CG	17.35	4.694	20
	Total	19.90	5.874	60
delayed post-test	IT	21.30	5.440	20
	IN	14.55	5.790	20
	CG	13.30	4.658	20
	Total	16.38	6.314	60

As table 1 indicates, all three groups started the term with very similar means on their question formation tests ($\bar{X}$= 8.80, 9.40, and 8.85) and showed some improvement during the treatment time before the first post test. However, by the time of the immediate post test or the end of the term, the three groups had maintained a distance while the mean performances of the IT and IN groups were ahead of the control group ($\overline{X2}_{IT}$=22.35, $\overline{X2}_{IN}$=20.00, $\overline{X2}_{CG}$=17.35). The performance of all three groups proved to be poorer on the delayed post

test while the IT group demonstrated the mildest drop in mean ($\overline{X3}_{IT}$=21.30, $\overline{X3}_{IN}$=14.55, $\overline{X3}_{CG}$=13.30). In order to establish the significance of the differences, these changes had to be statistically analyzed.

The first step was to check for the assumptions of the ANOVA in general and those pertaining to mixed model ANOVAs in particular. The normality of the scores on all testing occasions was checked using the explore option of SPSS and examining the skewness and kurtosis values. Next, *Levene's Test of Equality of Error Variances* and *Box's Test of Equality of Covariance Matrices* were checked as two important assumptions of SPANOVA. Since both tests were non-significant, neither of the two assumptions had been violated and we were safe to proceed. However, as a common occurrence in factorial ANOVA procedures, the assumption of sphericity was violated based on *Mauchly's Test of Sphericity*. Therefore, instead of referring to the univariate statistics results, the multivariate statistics table was consulted as it does not require the assumption of sphericity (Pallant, 2013). Both main effect (the individual effects of the IVs) and interaction effect (the effect of the IVs combined) were checked in the Multivariate statistics table, a summary of which is reproduced here as table 2.

Table 2. Multivariate tests[a] of main and interaction effects of IVs.

	Effect	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Time	Pillai's Trace	.911	286.882[b]	2.000	56.000	.000	.911
	Wilks' Lambda	.089	286.882[b]	2.000	56.000	.000	.911
	Hotelling's Trace	10.246	286.882[b]	2.000	56.000	.000	.911
	Roy's Largest Root	10.246	286.882[b]	2.000	56.000	.000	.911
Time * group	Pillai's Trace	.664	14.159	4.000	114.000	.000	.332
	Wilks' Lambda	.382	17.319[b]	4.000	112.000	.000	.382
	Hotelling's Trace	1.500	20.629	4.000	110.000	.000	.429
	Roy's Largest Root	1.416	40.356[c]	2.000	57.000	.000	.586

a. Design: Intercept + group

Within Subjects Design: Time

b. Exact statistic

c. The statistic is an upper bound on F that yields a lower bound on the significance level.

First, the interaction effect in the time*group row was checked. Although all multivariate tests produced by SPSS syntax tend to yield very similar results, *Wilks'*

Lambada is reported here as it is common practice. According to table 2, there was a significant effect for the interaction between the two independent variables on the dependent variable with a large effect size; $F(4,112)=17.31, p<.001, \eta^2=.382$. This indicates that our grouping criteria or the treatment conditions did have an effect on participants' polar question formation ability, however, through the levels of the other IV which was time. That is, the question formation ability of the learners was differentially affected by the type of interaction they engaged in according to different time periods and the change for the three different groups was not similar over time. When the interaction effect is significant in factorial ANOVA, the interpretation of the main effects proves to be rather tricky and should be treated with caution as it will be less than revealing (Pallant, 2013). However, as table 2 indicates, the main effect of the IV time was also significant with a very large effect size; $F(2,56)=286.88, p<.001, \eta^2=.911$.

As suggested by Pallant (2013), since the interaction effect had been significant, the profile plot of the analysis was consulted to make an interpretation of the results possible. This plot is reproduced below as Figure 2.
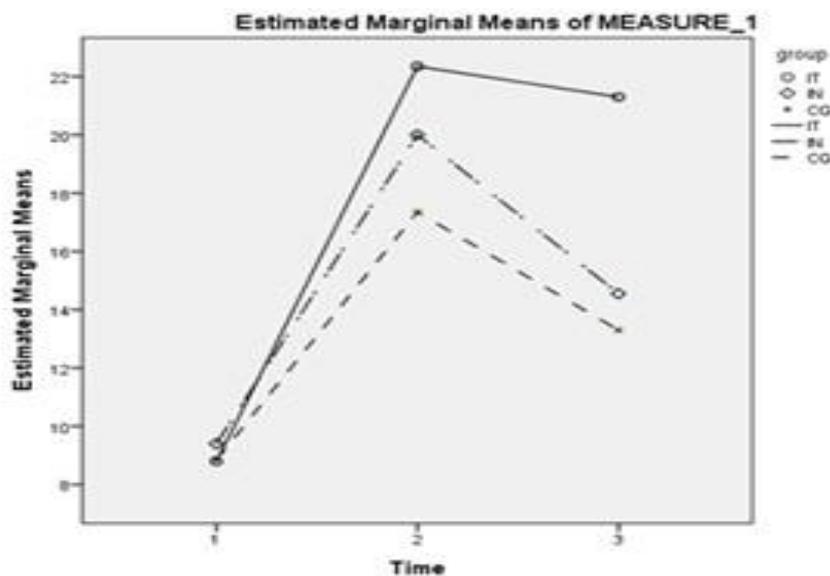

Figure 2. Profile plot of the main and interaction effects

As figure 2 and the descriptive statistics presented earlier in Table 1 suggest, while the mean question formation ability of the three groups did not show any significant difference to begin with ($\overline{X1}_{IT}=$ 8.80, $\overline{X1}_{IN}=9.40$, and $\overline{X1}_{CG}=8.85$), all three groups demonstrated considerable changes from the time of the pre-test to the first post test ($\overline{X2}_{IT}=22.35$, $\overline{X2}_{IN}=20$, and $\overline{X2}_{CG}=17.35$). In fact, all three groups dramatically improved in their ability to make polar questions after the treatment. However, after a one-month interval, their

performances on the delayed post test deteriorated. This decrease was obviously more substantial for the IN (interaction with no training) and CG (no interaction) groups and the IT (interaction with training) experienced a milder decrease ($\overline{X3}_{IT}$=21.30, $\overline{X3}_{IN}$=14.55, and $\overline{X3}_{CG}$=13.30). Although these patterns are observable from the profile plot in Figure 2 above, post hoc tests are required to establish the statistical significance of the differences demonstrated by the means of the three groups. For this purpose, a *Bonferroni* post hoc analysis was requested for the grouping variable in the SPSS. The results are presented in Table 3 below.

Table 3. Multiple comparisons based on Bonferroni post hoc analysis for the grouping variables

(I) group	(J) group	Mean Difference (I-J)	Std. Error	Sig	95% Confidence Interval	
					Lower Bound	Upper Bound
IT	IN	2.83	1.430	.157	-.70	6.36
	CG	4.32*	1.430	.011	.79	7.85
IN	IT	-2.83	1.430	.157	-6.36	.70
	CG	1.48	1.430	.912	-2.05	5.01
CG	IT	-4.32*	1.430	.011	-7.85	-.79
	IN	-1.48	1.430	.912	-5.01	2.05

Based on observed means.

 The error term is Mean Square(Error) = 20.462.

*. The mean difference is significant at the .05 level.

As Table 3 suggests, *Bonferroni* pos hoc analysis indicated that the only significant grouping effect occurred between the two groups IT and CG (p<.05). Therefore, it can be concluded that the only group which performed significantly different from the control group over time was the Interaction with Training group. The implications of these results are discussed more fully in the next section.

Discussion, Conclusion, and Implications

All three groups of the study showed development in their ability to form yes/no questions immediately after the treatment period and differentially deteriorated in this regard after a one month gap. This observation sounds rather plausible as long as the immediate post test was given on the day of their final exam, when the students are expected to show the greatest amount of preparation. Furthermore, the first post test was administered immediately after

three months of class practice while the delayed post test was given after a one month interval during which the students did not attend their classes and were not formally required to practice English. However, in order to make claims about these findings, statistical analyses were run as explained earlier in this text.

The results of the mixed between-within subjects analysis of variance (SPANOVA), presented in the previous section revealed that the type of peer interaction that young EFL learners engaged in as further practice after a grammar lesson had an effect on their polar question formation ability over time. More precisely, as suggested by the analysis of the profile plot and post hoc tests, although all groups similarly improved in their question formation ability during the treatment period and slightly regressed by the time of the delayed post test, the only group which significantly sustained its development as compared to the other groups was the interaction with training group. In fact, while engaging in interaction with peers for both treatment groups did have an effect in attaining better scores on post tests, only the students who were trained in providing and receiving interactional feedback could significantly outperform the control group on the immediate post test and maintain their interlanguage development over time until the delayed post test.

These findings suggest that young learners may benefit from interaction with their peer learners only if it is accompanied by appropriate training in dealing with interactional feedback and close mentoring of the teacher. This is particularly true when it comes to the long term effects of peer interaction while the differences may not be of significant value in the short run. These findings tend to corroborate the results from a number of studies including Philp et al. (2010), Mackey, (1999), and Huang (2011) in that a tendency toward interacting in the class among learners and engaging in interactive tasks will benefit the students and will also facilitate the learning process. Particularly, since teachers are expected to be familiar with their learners' cognitive capabilities, if this participation is accompanied by the instructor's close monitoring and feedback, the vividness of its effect will be more dominant. The results are also in concordance with Mackey and Silver's (2005) findings as feedback was found to be a determinant of successful grammatical development based on interactional exchanges. Also, Gunning and Oxford's (2014) claims about the effects of strategy training on the quality of young learners' peer interactions were corroborated and it was shown how important such training can be. The outcomes of the present study also confirmed Oliver's (1998, 2002, 2009) findings about ESL learners in case of EFL children in that they were found to be benefitting from interactional exchanges. However, it also

challenged these earlier results by indicating that long-term improvements in child interlanguage can occur only when the interlocutors are trained and well-rehearsed in strategies for negotiation of meaning and receiving and providing feedback. Therefore, at least in case of younger learners, sustained grammatical development results as long as interaction is informed, meaningful, and orchestrated.

There are a number of pronounced implications for these results directly applicable to young adult classes in EFL contexts. The implications target both language teachers and curriculum developers, especially in case of young learners' language education. This study showed that despite the doubts cast on the efficiency of NNS-NNS interactions in EFL classes, specifically in case of younger learners, (Gunning & Oxford, 2014; Butler & Zeng, 2014; Lazaro & Azpilicuteta-Martinez, 2015; Garcia Mayo & Lazarro Ibarrola, 2015) integration of such interactive activities into routine classroom procedures is worthwhile as long as the interaction is guided by the teacher. In order to maintain the interlanguage development of young learners over time, it is recommendable to encourage meaningful peer interaction among them once they are introduced to the feedback strategies required to facilitate conversational exchanges and interlanguage development through such processes as noticing. This is especially important to all EFL contexts including Iran where teachers are very often accused of running one-directional, teacher-fronted classes with little attention to the benefits of interaction as a result of an allegedly lower appreciation for individual learning and interpersonal interaction in such non-western cultures (Mackey & Silver, 2005), a stereotype which needs to be challenged and changed. As local studies including Keivanpanah, Alavi and Sepehrinia (2012) showed, while Iranian EFL teachers insisted to perform most of the correction in the class, their learners preferred to maintain self and peer correction and engage in interactional activities rather than being corrected by their instructors. Therefore, based on the evidence from this study as situated within the body of literature, EFL teachers of young classes are suggested to trust the interactive capabilities of their students and give a chance to these potentialities to burgeon and grow. With little strategy training and monitoring, peer interaction can significantly enhance learners' internalization and long-term retention of language forms even in case of younger learners.

As to the limitations and delimitations of the present study, it must be reminded that the development of learners' interlanguage was limited to grammatical competence and narrowly operationalized as polar question formation which can hardly represent all intricate aspects of young learners' SLA. Furthermore, the participants of the present study were all male and

came from intact classes of 20. Therefore, it is recommendable that in possible replications in future, larger populations of both male and female learners, randomly assigned to various treatment conditions, be targeted. It is also suggested that interactionist researchers interested in the promising area of young learners research continue this trend by focusing on a wider range of grammatical and linguistic features including phonological, lexical, and pragmatic exchanges. For this purpose, standardized tests now available for younger learners, including TOEFL Junior® and Cambridge English Placement Test for Young Learners, can be employed to more fully grasp the development of their interlanguage.

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