



Assessing English Language Teachers' Initiation of Discourse in the Light of Teaching Experience and Learners' Proficiency Level

Mina Esmaeilibavili¹, Zohreh Seifoori^{2*}, Touran Ahour³

¹ Ph.D. Candidate, Department of English Language, Tabriz Branch, Islamic Azad University, Tabriz, Iran

^{2*} Associate Professor, Department of English Language, Science and Research Branch, Tehran, Iran

³ Associate Professor, Department of English Language, Tabriz Branch, Islamic Azad University, Tabriz, Iran

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ABSTRACT

The pattern dominating Classroom discourse is Initiation-Response-Feedback (IRF) and the initiation move normally takes the form of questions asked by teachers. The questions might be either referential or inferential and classroom research has accentuated the role these questions can play in eliciting learner output with the latter more likely conducive to meaning-focused output. However, what still awaits scrutiny is the extent to which teachers tend to activate learners' semantic and syntactic processing by using appropriate questions and how their experience might mediate their choices at varying proficiency levels. Hence, the present descriptive study set out to compare the frequency of inferential and referential questions employed by novice and experienced teachers to initiate interaction at lower-intermediate (LI) and upper-intermediate (UI) levels. For the purpose of the study, a purposive sample of 20 English classrooms were selected at nine branches of an English institute in Tabriz, Iran. The classrooms were taught by five novice and five experienced teachers. Using a semi-structured researcher-made and piloted observation form, the classroom procedures were observed, recorded, and transcribed. The transcribed data were further analyzed employing the standardized coding system proposed by Long and Sato (1983) as a seven-category taxonomy of functions of teacher questions. The results revealed that experienced teachers used significantly more referential questions at both LI and UI levels. In contrast, novice teachers were found to use significantly more inferential questions at both LI and upper intermediate levels. Pedagogical implications of the findings will be discussed.

Keywords: Classroom Discourse; Inferential Questions; IRF; Referential Questions; Teaching Experience

INTRODUCTION

Second and foreign language learning can be described as a complicated, multifaceted, and dynamic process within which success is a relative notion and noticeably reliant on a wide range of contextual features relevant to learners and the instructional context. Regardless of such variables, though, research findings in the last few decades have consistently stressed the distinction of negotiation for meaning in

enhancing learners' communicative competence (Ellis, 2015; Ortega, 2009). In the last quarter of the 20th century, the attempts of cognitive interactionists to describe how negotiation for meaning develops in varying contexts and how interaction enriches learners' comprehension underscored the distinctive interactional patterns dominating ESL and EFL contexts (Guzel, 2022; Long, 1996; Swain, 1985; Young, 2011). Advocates of the sociocultural theory (Lantalf & Aljaafreh, 1995; Nassaji & Swain, 2000), conversation analysis

*Corresponding Author's Email:

zseifoori2005@yahoo.com

(Seedhouse, 2005; Kasper, 2006; Mori, 2007), and socialization theory (Duff, 2007; Garrett & Baquedano-Lopez, 2002) have highlighted the social nature of learning and general consensus has been reached over the the facilitative role of interaction (Long, 1996) as a means of engaging learners in semantic processing of the input that is interactionally modified and syntactically processed through attention to meaning and form (Ellis & Shintani, 2014). The application of the findings from social perspective on language learning to classroom entails outlining and investigating unique features of formal instruction such as teacher-student (T/S) interaction that may have a bearing on learning outcomes. The dominant pattern governing classroom discourse, however, is Initiation-Response-Feedback (IRF) where the teachers' initiation can have profound impacts on the type of response from the student.

It has been widely recognized that more than half of the class time in EFL or ESL classrooms is taken up by question-and-answer exchanges. This classroom discourse pattern is one of the teachers' tools to maximize learners' engagement and followingly what can profoundly impact the quality of this participation is the type of question asked by the teacher. Interaction can occur in an English classroom as well and one of the most significant characteristics of a classroom discourse is that it follows a quite distinctive and expected structure, encompassing the teacher's initiating (I) the discourse, learners' responses (R), and the teachers' feedback (F) on that response, known as IRF (Sinclair & Coulthard, 1975; Swain & Lapkin, 2001). First turns are always initiated by teachers using different types of questions. Most researchers have agreed that questions can help learners to improve their language proficiency (Liu & Le, 2012). Accordingly, various classifications of questions have been suggested. Liu and Le (2012), for instance, have identified four types of factual, reasoning, opening, and social questions while Ellis (1994) made a distinction between display or inferential, that are input-oriented and demand lower level processing of information and referential questions that

necessitate more profound processing mechanisms that allow the learners to express their opinions and share information. Furthermore, Brown (2001) defines display questions as questions for which the teacher knows the answer in advance, and which involve a single or short response of the low-level thinking kind where referential questions require deeper levels of processing on the part of the learner and longer responses that are not known to the teacher. These questions, according to Brock (1986), help to elicit more interaction and meaningful negotiation and viably more learning.

The teachers' questions are of great value for many educational purposes, Adedoyin (2010) believes, and can enhance students' reflection, and questioning, as well as deepen student comprehension and engagement in the classroom. Teacher questioning is an integral part of the process of teaching. With reference to what Cotton (1988) has reported about questioning, regarding popularity that questioning possesses after giving instructions, teachers in the classroom spend between thirty and fifty percent of their teaching time conducting question sessions (Hamiloglu & Temiz, 2012). Richards and Lockhart (1996) also stated that the exchange of questions and answers takes almost half of the class time. As a result, questioning has a vital function and countless studies have been carried out for this reason (Almeida, Pedrosa de Jesus & Watts, 2008; Chin and Osborne, 2008; Graesser and Olde, 2003). The positions that questions take within the classroom can take many forms, including questions for the purpose of understanding monitoring, ties to prior learning, and cognitive development stimulation.

From this perspective, the paramount importance of initial questions asked is accentuated in terms of the impact they may have on the nature of interaction and communication that follows in teacher-fronted settings in which asking the right type of questions can give students ample amount of talk time. Highly teacher-fronted Iranian language classrooms are typically marked with the use of questions to stimulate interaction

and communication or to manage classroom procedures. However, the very nature of the questions asked can be anti-pedagogic (Marzban et al., 2010) and as Banafshi, Khodabande, & Hemmati (2020) indicate, may have detrimental effects on learning outcomes given the fact that teachers might tend to take the floor and dominate classroom discourse depriving students of the restricted opportunities, they have for engaging in communication.

The aim of the present work is to investigate the utilization of referential and inferential questions in the initiation of initiation- response- feedback (IRF) pattern with upper- intermediate and lower-intermediate learners with regard to the teachers' experience. The importance of the present study resides in the deepening the understanding the of various features of such questions, engaging learners in interactions and ways of varying the sequence toward more authentic interactions by modifying the quality of the initial questions asked by the teacher.

LITERATURE REVIEW

Classroom discourse has a number of characteristics that discriminate it from unplanned conversations in other interactive settings. Most of these features associate with the teacher's role and power (Lin, 2007), that is, teachers control the learners' contribution in the discourse by initiating most linguistic exchanges, determining turns, and having the right to the third move which is mostly feedback or evaluation. According to Crespo (2002), the adequacy of a question depends on the degree to which pre-determined objectives are accomplished. For example, for a teacher who is practicing inductive teaching, convergent questions are most suitable. To expose or encourage students' vocabulary and spelling knowledge, a language teacher can ask convergent questions. Thus, as Epstein (2003) has stated, the use of proper questions needs a strong method of planning. Questioning, primarily within the IRF sequence, is a universally used activation technique in teaching. It is difficult for ESL students to use English well, according to

Yang (2017), while classroom questioning is one of the most basic methods of fostering communication between teachers and students, so it is becoming more and more relevant in teaching in the classroom. Besides, Fries (2008) considers questioning strategy as one of the most important dimensions of teaching and learning which should be activated to promote achievement. He further claims that questioning gives tutors the chance to find out what students know and understand, and it allows students to ask for clarification and help.

As Ortega-Auquilla, Hidalgo-Camacho, & Heras-Urgiles (2019) state, classroom communication and interaction both have facilitative roles for second language (L2) development. One of the factors that may guide teachers in employing the right type of question might be their professional knowledge as well as their teaching experience which seems to improve teaching self-efficacy (Chan, 2008). To what extent, however, can teaching experience illuminate teachers' understanding of how to tailor their questions to learners' characteristics at varying levels of proficiency? Several studies have been conducted to investigate the differences (David, 2007; Shomoossi, 2004). The results of the study conducted by Shomoossi (2004) indicated that that display questions were utilized by teachers more frequently than referential questions. Moreover, it was concluded that NOT all referential questions could generate enough interaction. Similarly, in his study in 2007, David concluded that teachers used more display questions rather than referential questions and referential questions create less classroom interaction than display questions.

Forster, Penny, and Shalofsky (2019) examined the role of questions in scientific conversation. Specific purposes of the study were for novice teachers to expand their understanding of quality questioning in primary science and its possible effect on children's intellectual engagement. They identified definite ways in which their practice of questioning could be improved and put these into practice in a follow-up lesson with

the same children which verified their over-reliant on questions as their default strategy.

In a different study in 2019, Milawati and Suryati investigated the type and effectiveness of EFL teachers' oral questioning. Classroom observations, field notes, and videotape recording, were utilized to collect the data. The findings revealed that among four types of questioning strategies, redirecting was the most frequently used to initiate students' responses and to analyze students' understanding. Other findings manifested that low-cognitive questions were common. Of those, knowledge-based questions were the most frequently used in order to confirm students' understanding of the materials they learned. However, the higher-level questions were rarely used. It was similarly found out that the teacher employed questioning strategies ineffectively to manage the class, insufficient time responded to a complex level of questions, and the number of questions created confusion. Some changes to create effective classroom questioning and a stronger connection between the level of question and the questioning strategies were discussed. Evidence proved that teacher question can assist EFL students in various purposes in teaching learning process. Nevertheless, teacher's lack of knowledge about questioning taxonomy could cause a failure in leading students' learning.

Claiming that classroom questioning can be considered a key element in the promotion of student engagement, Ribeiro, Rosário, Moreira and Cunha (2019) examined the number and type of questions asked by the teacher and by the students in the classroom and analyzed their perceptions about the significance of classroom questioning. The results suggested that the teacher and most students consider questioning significant for student learning. However, it was found that 93% of the questions were asked by teacher and that low-order questions predominated classroom discourse.

In 2020, Susantara and Myartawan analyzed the types of teacher questions, the purposes of the teacher in asking questions, and student answers to the teacher questions in

the English classroom. The result of the analysis showed that the teacher more frequently asked convergent and display questions rather than divergent and referential questions; however, procedural questions were also found. They confirmed that the teacher's questions served several aims such as to develop students' interests and curiosity, to observe students' knowledge, and to diagnose students' difficulties in the learning process. Kucuktepe and Cakmakci (2021) investigated practicing teachers' opinions about questioning skills, strategies and types. In their qualitative research, they interviewed 52 primary school class teachers who were working in state and private schools in Istanbul. They found that the primary school class teachers mostly concentrated on evaluation, employed questions measuring the information possessed by students and attributed the benefit of asking questions to the feedbacks elicited. The researchers highlighted the need for seminars and in-service teacher training programs to raise teachers' awareness of questioning strategies.

Similarly, in 2021, Svanes and Andersson-Bakken investigated the functions of open questions in whole-class teaching in language classrooms in an elementary school, and examined how these questions may work as a mediating tool. The findings of their study showed that the teacher use of asking open questions has one fundamental function which is classroom management. The teachers likewise ask open questions that are more subject oriented, and the material covers writing activities and orthography and grammar instruction. The functions of open questions are quite similar in the two data sets. They finally concluded that the teachers' open questions can mediate an understanding of school culture and the values of the subject to the students, in this case how writing activities and grammar instruction should be interpreted.

Due to the claim that teacher questions have long been considered important in mediating students' learning in language classrooms, Liu and Gillies (2021) examined the mediated-learning behaviors involved in teachers' questions during whole-class

instruction in high schools in China. The study suggested that the interactions initiated by referential questions contain more varieties of mediated-learning behaviors. This study suggested that teachers are supposed to be encouraged to use referential questions more frequently whether in display interactions or in referential interactions.

The existing literature unravel a recent focus on questions as the initiating move in classroom discourse (e.g., Aflalo & Raviv, 2020; Tsui, 2008; Van Lier, 2000); however, what has been overlooked is the learner teachers' characteristics like proficiency and teaching experience that might moderate their use of appropriate questions. In addition, many EFL teachers might not yet be quite cognizant of the extent to which the questions they ask engage learners in mere recitation of information newly presented or let them link the teaching content to their background by making inferences. Lack of sensitivity to learners' proficiency level in selecting the right question type may spoil this very limited interactional opportunity within the confines of language classrooms. Some timid LI learners might feel reserved to produce longer stretches of response while UI learners' lack of interest in fixed and restricted interaction might be linked to the nature of questions asked by the teacher. The question awaiting further scrutiny is, thus, the extent to which Iranians EFL teachers apply referential question to elicit more genuine interaction in their classrooms and whether teachers' use of such questions may vary in terms of learners' proficiency level or the teachers' experience.

Hence, the current study aimed to explore novice and experienced Iranian EFL teachers' use of referential and inferential question types as the initiation of IRF pattern in teaching learners at LI and UI levels of proficiency. The significance of this study can be attributed to the detailed information it can provide which may serve to develop teachers and educators' perspectives on the issue, help teachers develop a better understanding of the questions they deploy, suggest ways of varying the sequence toward more authentic

interactions by modifying the quality of the initial questions asked by the teacher. The following research questions were formulated to serve the purpose:

Q1. How frequently do novice and experienced teachers employ inferential and referential questions to initiate interaction at LI level?

Q2. How frequently do novice and experienced teachers employ inferential and referential questions to initiate interaction at UI level?

Q3. Is there any significant difference between novice and experienced teachers in terms of the inferential questions while initiating interaction at LI and UI level?

Q4. Is there any significant difference between novice and experienced teachers in terms of the referential questions while initiating interaction at LI and UI level?

METHOD

Participants

The participants in this study comprised 10 English teachers and their learners in UI and LI classes. The number of learners in each class was 15 on average. The purposive sampling procedure was applied in selecting the teachers who were teaching UI and LI classes regardless of their age, sex, and LI background. They were selected out of a population of 60 teachers at nine branches of Goldis language institute in Tabriz. The participants were grouped based on Palmer and et.al (2005) and Fuller's (1970) teacher development model: those with one to four years of teaching were regarded as novice and those above five years of teaching were regarded as experienced. The experienced teachers ranged in age from 28 to 39 and varied in experience from 5 to 15 years; likewise, the novice teachers' age range was 24 to 34 and their teaching experience was between 2 and 4 years.

The institutional regulations did not allow for administration of a general English pre-test in 20 classes; thus, the initial homogeneity of the participants was checked by comparing their obtained final scores from the preceding

semester. This seemed a viable option to minimize the effect of the limitation we faced in administering the pre-test since the participants had been attending English classes for more than ten successive semesters. Moreover, the study was not directly focused on the participants' homogeneity, but rather on the type of IRF patterns employed by the teachers at two different proficiency levels.

Materials

The research data in this descriptive inter-relational classroom research explored classroom interactions in naturally occurring classroom contexts. The research data comprised audio-recorded flow of classroom interactions that were further transcribed and analyzed based on a validated researcher-designed observation form and were further tabulated based on the coding system offered by Molinari et al. (2013). The following materials were opted for in this study:

The Observation Form

In order to collect the research data, a semi-structured observation form was designed based on (Molinari et al., 2013) views on the factors involved in IRF pattern and the dominant classroom procedures of pre-view and post-view stages to measure the frequency of teacher-student IRF interactional patterns and the type of questions used in the initiation part during the warm-up, pre-view, and post-view phases of teaching listening, reading, and speaking skills. Writing was intentionally excluded since it is normally treated very lightly in English classes and is assigned as homework. Also, the view stage of teaching was not included in the observation since teacher-student interaction is less likely at this stage when learners are individually involved in comprehending the written or oral texts or planning their task-based speaking in pairs and groups. The main parameter considered in the observation and analysis of teacher-student interaction in each of the lesson stages was the overall number of IRF interactions used as well as

the teachers' referential and inferential question types.

Because it was impossible to access and analyze student-student interactions, we had to limit this analysis to teacher-student interactions typically during the pre-view and post-view stages of teaching. Student-student interactions during the post-view phase of teaching in the form of pair and group-work were also excluded from the analysis.

The content validity of the observation form was assessed by two licensed mentors with more than 10 years of supervising and mentoring English teachers and more than 20 years of teaching English. Further, the finalized observation form was explained to two trained observer mentors who agreed on the fit between the content of the form and the requirements of the study. They were also required to observe four recorded classes taught by an experienced teacher and four by a novice teacher and complete the related forms regarding the IRF and referential and inferential question types used by the teachers. The results were reported in the form of frequencies and the inter-rater reliability was estimated through Cohen's Kappa that revealed a moderate and almost perfect agreement (Altman, 1999; Landis & Koch, 1977) between the ratings of two raters for the IRF ($k = .47$, $p = .000$) and referential and inferential question types ($k = .71$, $p = .000$).

Having collected the research data, two of the researchers listened to the collected data and transcribed those sections relevant to the warm-up, pre-view and post-view stages. Further, the frequency of IRF interactions occurring at each of these stages as well as the frequency of referential and inferential question types were computed and tabulated.

The IRF Categorization Framework

Some parts of a useful framework for investigating patterns of classroom interaction proposed by Molinari, et al (2013) were utilized in coding the transcribed data with the addition of (Aljaafreh & Lantolf, 1994). Specific sub-categories of IRF sequence are summarized in Table 1.

As illustrated in Table 1, the system provides a detailed coding for the three turns of the IRF interaction. The teachers' initiations are coded according to two categories of function and form. Regarding the function, the initiation can elicit information from an individual using interrogative or yes/no questions or ask for elaboration or clarification of prior output, or address the same question to another student in the same interactive sequence. The teacher may employ a focused (referential) question with only one possible answer or an authentic (inferential) one without a pre-determined response. Learners'

answers are coded based on three features of form, whether the response has been requested or not, correctness, showing the quality of the learner's answer as correct, incorrect or not assessable in terms accuracy, and production, if it is minimal, brief and simple comprising one to five words or complex, long and elaborated containing more than five words. The teachers' feedbacks are coded into two categories, one concerning the teaching-learning processes (simple, refusal/missing, elaborate, scaffold, and graduated and contingent) and the second assessing the relational quality.

Table 1
A Summary of Sub-categories of IRF Pattern

IRF sequences		IRF sub-categories	
I	Initiation	<i>Function</i>	New Elaboration Re-launch
		<i>Form</i>	Authentic/ inferential Focused/ referential
II	Response	<i>Form</i>	Requested Not requested
		<i>Correctness</i>	Correct Partially correct Incorrect Not accessible
		<i>Production</i>	Minimal Complex Not accessible
III	Feedback	<i>Teaching-learning process</i>	Simple Elaborate Scaffold Refusal Graduated/ contingent
		<i>Related quality</i>	Content Non-verbal indicators

In simple teaching-learning processed, the teacher may either admit the answer as it is or decide to offer some solutions to rectify it. Refusal/missing process involves either the lack of student's response or the teacher's rejection of it. It is possible for the teacher to go one step beyond and offer elaboration on the student's answer, reformulate it, or enrich it by adding detailed information. The focus in the present study was on the frequency and type of questions employed by novice and experienced teachers to initiate interaction at lower and UI levels.

Design and Procedure

This descriptive ex-post-facto research was undertaken in several steps including selecting the research sample, developing the observation form, recording, transcribing, tabulating and analyzing the data. The first two stages of the study were described in the previous sections of the methodology. The data collection procedure initiated with observing and audio recording three sessions of each LI and UI classes taught by participating novice and experienced teachers making a total of 60 sessions. This did not interfere with the classroom procedure since

all the classes in the observed institutes are constantly recorded based on institutional regulations and the teachers and students are quite used to being observed. To reduce the Hawthorne effect, the teachers were not informed of the focus of the study. Next, the recorded teacher-student exchanges were independently transcribed by two of the researches and 25% of their transcripts were matched with the recorded data by a third experienced teacher to ensure the consistency of transcripts with actual classroom interactions. The transcribed data were then coded based on the analytic framework developed by (Molinari et al., 2013) and the instances of IRF interaction and types of teachers' questions were marked in the observation form and tallied for novice and experienced teachers with respect to the proficiency level of the

learners. The inter-rater reliability of the tallies was further estimated. The frequency of experienced and novice teachers' use of inferential and referential questions at the two proficiency levels were measured and further compared via Chi Square test.

RESULTS

The first research question delved into the frequency of novice and experienced teachers' use of inferential and referential questions at LI level. To answer this research question, the participating novice and experienced teachers at LI were observed and their use of these question types was measured based on the class observation form previously described. The data were further tabulated and statistically analyzed. The results are presented in Table 2.

Table 2

The Frequency of Novice and Experienced Teachers' Use of Referential and Inferential Questions at LI level

Teacher's experience	No	LI	
		Referential	Inferential
Novice	1	30	32
	2	30	39
	3	39	43
	4	23	33
	5	29	40
	Total	151	187
	Perc.	44.67%	55.32%
Experienced	1	40	22
	2	48	21
	3	29	8
	4	35	28
	5	34	31
	Total	186	110
	Perc.	62.83%	37.16%

Table 2 indicates that the novice teachers used more inferential questions ($f = 187$) than referential questions ($f = 151$) while, the results were the opposite for the experienced teachers who employed more referential ($f = 186$) than inferential questions ($f = 110$). The proportion of the two question types to the total number of questions asked by the teachers verified the results; Only 44.67% of the novice teachers' questions were referential compared to the 62.83% of the experienced teachers. With regard to inferential questions, 55.32% of the questions asked by novice teachers' were inferential compared to the

37.16% for the experienced teachers. Hence, it was found that both teachers employed both referential and inferential questions at LI level with novices opting for inferential questions and experienced teachers preferring referential ones.

As demonstrated in Table 3, the novice teachers also employed remarkably more inferential ($f = 361$) than referential questions ($f = 166$) whereas experienced teachers' initiation of discourse displayed an approximately equal reliance on both referential ($f = 155$) and inferential ($f = 154$) types. The proportion of the two question

types to the total number of questions asked by the participating teachers verified the results; from all the questions asked by novice teachers, merely 31.50 were referential compared to the 50.16% of the inferential questions asked by experienced teachers. As for inferential questions, the figure was higher for novice teachers, 68.50%, than the experienced participants, 49.83. Answers to the first two questions were provided inspectionally based on the frequency of the participant teachers' use of the two question

types at LI and UI levels and showed conspicuous variations viably attributable to teaching experience. The third and fourth research questions, however, addressed the significance of the observed differences in the use of referential and inferential questions at LI and UI levels, respectively. To answer these research questions, thus, two Chi-square tests were performed on relevant research data and the results are presented in Table 4 for the referential questions and Table 5 for inferential questions.

Table 3

The Frequency of Novice and Experienced Teachers' Use of Referential and Inferential Questions at UI level

Teacher's experience	No	UI	
		Referential	Inferential
Novice	1	31	67
	2	35	84
	3	42	71
	4	31	74
	5	27	65
	Total	166	361
	Perc.	31.49%	68.50%
Experienced	1	34	36
	2	30	32
	3	28	30
	4	30	28
	5	33	28
	Total	155	154
	Perc.	50.16%	49.83%

Table 4

Chi-square Tests for the Novice and Experienced Teachers Use of Referential Questions at LI and UI Levels

	Value	Df	Asymp. Sig. (2-sided)	Exact Sig (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	3.141 ^a	1	.076		
Continuity Correction ^b	2.870	1	.090		
Likelihood Ratio	3.143	1	.076		
Fisher's Exact Test				.086	.045
Linear-by-Linear Associ	3.136	1	.077		
N of Valid Cases	658				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 154.65.

b. Computed only for a 2x2 table

The findings of Chi-Square in Table 4 shows that the value of chi-square for the use of referential questions was not statistically significant, $\chi^2(1, N=658) = 2.870, p = .090$. Therefore, the answer to the fourth research question is negative: There was not any

significant difference between novice and experienced teachers' use of referential questions at LI and UI proficiency levels.

Another Chi-Square test was run to examine the significance of the differences in the participants' use of inferential questions at

the two proficiency levels, the results of which are presented in Table 5.

Table 5

Chi-square Tests for the Novice and Experienced Teachers Use of Inferential Questions at LI and UI Levels

	Value	Df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	4.369	1	.037		
Continuity Correction ^b	4.050	1	.044		
Likelihood Ratio	4.333	1	.037		
Fisher's Exact Test				.043	.022
Linear-by-Linear Association	4.364	1	.037		
N of Valid Cases	812				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 96.56.

b. Computed only for a 2x2 table

As shown in Table 5, the chi-square results for the novice and experienced teachers' use of inferential questions at LI and UI levels was statistically significant, $X^2(1, N=812) = 4.050, p = .044$. Hence, to simply

quantify the differences, the effect size of the association between teaching experience and the use of inferential questions across proficiency were computed via the phi coefficient (see Table 6).

Table 6

Symmetric Measures for the Frequency of Inferential Questions

	Value	Approx. Sig.
Nominal by Nominal	Phi	.073
	Cramer's V	.073
N of Valid Cases	812	

Table 6 indicates a Phi-value of about .08 (.073) for a 2×2 table of the study which, according to Cohen's criteria (1988), represents an association between the teachers' experience and proficiency level of the students with regard to the use inferential questions. That is to say, taking the percentage and frequency of inferential questions asked by the two groups at the two levels of proficiency, one notices that the novice teachers were significantly more trying to encourage the learners to make inferences. In addition, their use of such questions at UI was twice that of the LI level. Likewise, experienced teachers employed more referential questions at UI (49.83%) than at LI (37.16). Yet, this was quite fewer compared to the novice teachers. Therefore, the answer to research question 3 is positive: There was a significant difference between novice and experienced teachers' use of inferential questions at LI and UI proficiency levels.

DISCUSSION

The findings from the current study examined teachers' use of referential and inferential

questions to initiate discourse in the classroom. This complies with the principle of Sociocultural theory and socio-intracommunication (e.g., Mondada & Pekarek Doehler, 2004) that view learning as an initially inter-mental process that is further consolidated intramentally. A major role for the teacher is to scaffold learners' speech within the Zone of Proximal Development (ZPD). This, however, may not simplistically be equated with asking low-level questions that can be mechanically responded. It rather emphasizes the need for extending learners and pushing him out of his mental comfort zone by attempting to bridge the gaps in the input based on his background knowledge and teacher's supportive speech. The primacy of interaction in language learning has crystallized the paramount of co-construction of interaction and interactionist research has been provoked by the premise that language improves from communicative necessities in genuine interactions while learners involve in an environment that provides form and meaning-focused interactionally modified input (Norris &

Ortega, 2003). In the current study, experienced teachers were unexpectedly found to rely more heavily than novice teachers on referential questions both at LI and UI levels. That is teaching experience impacted the use of appropriate question types in the wrong way! Although, referential questions may elicit longer responses because learners are quite certain about the authenticity of their responses, overuse of such questions alludes to teachers' perception of learning as a merely cognitive activity and disregard for helping learners' conjecture about what they don't know based on known information.

These findings concerning overuse of referential questions by experienced teachers might reflect their conception of such questions as output generators because, as suggested by Cundale (2001) and Nunan (1987), referential questions engage learners in the exchange of information and negotiation of meaning and thus will enhance the emergence of necessary feedback for eliciting more information from students. However, when the focus of the lesson is on communication, there must be a tendency in asking referential questions to keep the language learners involved (Omari, 2018). Furthermore, researchers such as Nunan (1987) and Thornbury (1996) claim that referential questions will facilitate critical thinking, eliciting students' personal experiences, and responding to individual preferences of students.

A surprising finding concerns the novice teachers' more logical and balanced selection of question types at varying levels of proficiency and compared to experienced counterparts. As such, they are more similar to main stream teachers who prefer inferential questions (David, 2007; Rachmawaty & Ariani, 2018; Yang, 2010) possibly because they are more familiar with the new findings in the field. Conversely, experienced teachers' use of referential questions might be attributed to the fact that they are more preoccupied with eliciting feedback from the learners' to assess their learning (Cundale, 2001; Nunan, 1987; Thornbury, 1996). Omari (2018) seems to take the same stand when he suggests that referential questions should occur more

frequently in a lesson with a communicative focus especially in the EFL contexts. The findings for experienced teachers run counter to those reporting that teachers ask more inferential questions than referential questions (David, 2007; Omari, 2018). In fact, teachers tend to ask inferential questions that they already know the answer to (Scrivener, 2012) possibly owing to the elevated functions they serve including Encouraging critical thinking, eliciting students' personal experiences, and responding to individual preferences of students (Brock, 1986; Cundale, 2001; McGee & Johnson, 2003; Nunan, 1987; Pressley et al., 1990; Thornbury, 1996). Rachmawaty and Ariani's (2018) findings also showed that inferential (test or check) questions were the types mostly preferred by the teachers.

CONCLUSION

Despite a number of limitations and delimitations in the research methodology, sample size and data collection instruments employed, a number of conclusions might be drawn from the findings from this study. First, the participating teachers' use of referential questions indicated their cognizance of the importance of IRF as a way of engaging learners in interaction and likely assessing their learning. Conversely, restricted use of inferential questions by experienced teachers can accentuate the need for in-service teacher training programs that update their understanding of how to engage learners in higher-level critical thinking by helping them make inferences. In such training programs the focus should be on undeniably pivotal role of negotiated interaction the purpose should be growing realization of IRF as the dominant classroom interactional pattern that can help teachers initiate more effectively and provide scaffolded learner-contingent feedback to facilitate learners' transition from other-regulation to self-regulation. Last but not least, the study alludes to the effectiveness of observation as a teacher development and teaching enhancement technique because it can provide illuminating insights for the teacher being observed as well as the observer while the observed processes are interactively discussed and assessed in follow-up teacher

meeting. This might be offered through supervision meeting with practicing teachers. Yet, it needs to be remembered that the quality of the teacher-supervisor and mentor interaction can extremely affect the outcomes. Supervisors are recommended to be abundantly briefed on the aim and the significance of seizing the teachers' attitude by first admiring what they do right and then derive value and satisfaction in upgrading their questioning techniques. It is through such constructive professional exchanges that both novice and experienced teachers can notice ways of modifying the quality of each turn in IRF toward more authentic interactions and develop a better understanding of how to tailor all turns to the needs of the learners.

References

- Adedoyin, O. (2010). An investigation of the effect of teacher's classroom questions on the achievement of the students in Mathematics: a case study. *European Journal of Education*, 2(3), 10–25.
- Aflalo, E., & Raviv, A. (2020). Characteristics of classroom discourse in physics lessons. *Research in Science & Technological Education* 40(2), 168–188, doi: 10.1080/02635143.2020.178107.
- Aljaafreh, A., & Lantolf, J. P. (1994). Negative feedback as regulation and second language learning in the zone of proximal development. *The Modern Language Journal*, 78, 465–483.
- Almeida, P., Pedrosa-de-Jesus, H., & Watts, D. (2008). Developing a mini-project: students' questions and learning styles. *The Psychology of Education Review*, 32, 6–17.
- Altman, D. G. (1999). *Practical statistics for medical research*. CRC Press: Boca Raton, Florida.
- Banafshi, M., Khodabande, F., & Hemmati, F. (2020). Comparing EFL learners' responses in online and traditional classes: a mixed method approach. *Turkish Online Journal of Distance Education*, 21(4), 124–142.
- Brock, C.A. (1986). The effects of referential questions on ESL classroom discourse. *TESOL quarterly*, 20, 77–59.
- Brown, H. D. (2001). *Teaching by principles* (2nd Ed.). London: Longman.
- Chan, D. (2008). General, collective, and domain-specific teacher self-efficacy among Chinese prospective and in-service teachers in Hong Kong. *Teaching and Teacher Education*, 24, 1057–1069.
- Chin, C., & Osborne, J. (2008). Students' questions: a potential resource for teaching and learning science. *Studies in Science Education*, 44, 1–39.
- Cohen, J. (1988). *Statistical power analysis for the behavioural sciences*. New York: Lawrence Erlbaum Association.
- Cotton, K. (1988). *Instructional Reinforcement*. Portland, OR: Northwest Regional Educational Laboratory.
- Crespo, S. (2002). Praising and correcting. *Prospective Teachers Investigate Their Teacherly Talk, Teaching and Teacher Education*, 18(6), 739–758.
- Cundale, N. (2001). What we preach? Stated beliefs about communicative language teaching and classroom questioning strategies. *The Language Teacher*, 3(1), 20–25.
- David, F. O. (2007). Teachers' questioning behaviour and ESL classroom interaction pattern. *Humanity & Social Science Journal*, 2(2), 127–131.
- Duff, P. A. (2007). Second language socialization as sociocultural theory: Insights and issues. *Language Teaching*, 40, 309–19.
- Ellis, R. (1994). *The study of second language acquisition*. Oxford: Oxford University Press.
- Ellis, R. (2015). *Understanding second language acquisition*. Oxford: Oxford University Press.
- Ellis, R. & Shintani, N. (2014). *Exploring language pedagogy through second language acquisition research*. New York, NY: Routledge.
- Epstein, A. (2003). How planning and reflection develop young children's thinking skills. *Journal of Young Children* (58), 32–34.

- Forster, C., Penny, J., & Shalofsky, R. (2019). Questioning the role of questions: new primary teachers' realisations of over-reliance on questions in scientific dialogue. *Practice*, 1(2), 173-185. doi: 10.1080/25783858.2019.1659637
- Fries, J. (2008). Questioning techniques: Research-based strategies teachers. Retrieved from <http://thesecondprinciple.com/teaching-essentials/five-basic-types-questions>.
- Fuller, F. F. (1970). *Personalized education for teachers: An introduction for teacher educators*. Austin: The University of Texas at Austin, Research Development Center for Teacher Education.
- Garrett, P. B., and Baquedano-López, P. (2002). Language socialization: reproduction and continuity, transformation and change. *Annual Review of Anthropology*, 31, 339-61.
- Graesser, A. & Olde, B.A. (2003). How does one know whether a person understands a device? The quality of the questions the person asks when the device breaks down. *Journal of Educational Psychology*, 95, 524-536. doi:10.1037/0022-0663.95.3.524
- Guzel, S. (2022). The importance of reading activities in reading comprehension. *Disiplinlerarası Yen Araş Der*, 2(1), 29-34.
- Hamiloglu, K., & Temiz, G. (2012). The impact of teacher questions on student learning in EFL. *Journal of Educational and Instructional Studies in the World*, 2(2), 1-8.
- Kasper, G. (2006). Beyond repair: conversation analysis as an approach to SLA. *AILA Review*, 19, 83-99.
- Kucuktepe, C. & Cakmakci, E. (2021). Investigation of class teachers' opinions about question asking skills, questioning strategies and question types. *European Journal of Education Studies*, 8(2), 439-448.
- Landis, J. R. & Koch, G. G. (1977). The measurement of observer agreement for categorical data. *Biometrics*. 33, 159-174.
- Lantolf, J. P., and Aljaafreh, A. (1995). Second language learning in the Zone of Proximal Development: a revolutionary experience. *International Journal of Educational Research*, 23, 619-32.
- Lin, A. M. Y. (2007). What's the use of "triadic dialogue"? Activity theory, conversation analysis and analysis of pedagogical practices. *Pedagogies*, 2(2), 77-94.
- Liu, H. & Gillies, R. M. (2021). Teacher Questions: Mediated-Learning Behaviors Involved in Teacher-Student Interaction During Whole-Class Instruction in Chinese English Classrooms. *Frontiers in Education*, 6, 674876. doi: 10.3389/educ.2021.674876
- Liu, J., & Le, T. (2012). A case study on college English classroom discourse. *International Journal of Innovative Interdisciplinary Research*, 2, 1-10.
- Long, M. H. (1996). The role of the linguistic environment in second language acquisition. In T. Bhatia & W. Ritchie, (Eds.), *Handbook of second language acquisition* (pp.413-454). San Diego, CA: Academic Press.
- Long, M. H., & Sato, C. J. (1983). Classroom foreigner talk discourse: Forms and functions of teachers' questions. In H. W. Seliger & M. H. Long, (Eds.) *Classroom oriented research in second language acquisition* (pp. 110). Rowley, Mass: Newbury House.
- Marzban, A., Yaqubi, B., & Qalandari, M. (2010). IRF and ISRF sequences and their anti-pedagogical value. *Journal of English Language Pedagogy and Practice* 3 (7), 119-140.
- McGee, A., & Johnson, H. (2003). The effect of inference training on skilled and less skilled comprehenders. *Educational Psychology*, 23(1), 49-59.
- Milawati, A. & Suryati, N. (2019). EFL Teacher's Oral Questioning: Are Her Questions and Strategies Effective? *Dinamika Ilmu* 19(1), 37-55. doi: <http://doi.org/10.21093/di.v19i1.1545>
- Molinari, L., Mameli, C., & Gnisci, A. (2013). A sequential analysis of classroom discourse in Italian primary school: The many faces of the IRF pattern. *British*

- Journal of Educational Psychology*, 83, 414–430.
- Mondada, L., & Pekarek Doehler, S. (2004). Second language acquisition as situated practice: Task accomplishment in the French second language classroom. *The Modern Language Journal*, 88, 501–518.
- Mori, J. (2007). Border crossings? Exploring the intersection of second language acquisition, Conversation Analysis, and foreign language pedagogy. *Modern Language Journal*, 91, 849–62.
- Nassaji, H., & Swain, M. (2000). A Vygotskian perspective on corrective feedback in L2: The effect of random versus negotiated help on the learning of English articles. *Language Awareness*, 9, 34–51.
- Norris, J., & Ortega, L. (2003). Defining and measuring SLA. In C. J. Doughty & M. H. Long (Eds.), *The handbook of second language acquisition* (pp. 717–761). Oxford: Blackwell.
- Nunan, D. (1987). Communicative language teaching: Making it work. *ELT Journal*, 41, 136–145.
- Omari, H. A. (2018). Analysis of the types of classroom questions which Jordanian English language teachers ask. *Modern Applied Science*, 12(4), 1–12.
- Ortega, L. (2009). *Understanding second language acquisition*. New York: Routledge.
- Ortega-Auquilla, D., Hidalgo-Camacho, C.S., & Heras-Urgiles, G.E. (2019). The Facilitative Role of the Interaction Hypothesis: Using Interactional Modification Techniques in the English Communicative Classroom. *Polo Del Comunitario*, 3(1), 250–261.
- Palmer, D. J., Stough, L. M., Burdenski, T. K., & Gonzales, M. (2005). Identifying teacher expertise: An examination of researchers' decision making. *Educational Psychologist*, 40(1), 13–25. https://doi.org/10.1207/s15326985ep4001_2
- Pressley, M., Wood, E., & Woloshyn, V. (1990). Elaborative Interrogation and Facilitation of Fact Learning: Why Having a Knowledge Base Is One Thing and Using It Is Quite Another. In: Schneider, W., Weinert, F. E. (Eds.) *Interactions Among Aptitudes, Strategies, and Knowledge in Cognitive Performance*. Springer, New York, NY.
- Rachmawaty, N., & Ariani, S. (2018). Investigating the types of teacher questions in EFL secondary classroom. Retrieved from https://www.researchgate.net/publication/331334825_Investigating_The_Types_of_Teacher_Questions_in_EFL_Secondary_Classroom.
- Ribeiro L, Rosário P, Moreira I & Cunha RS (2019). First-Year Law Students' and Teacher's Questioning in Class. *Frontiers in Psychology*, 10. doi: 10.3389/fpsyg.2019.00611
- Richards, J. & C. Lockhart (1996). *Reflective teaching in second language classrooms*. New York, NY: Cambridge University Press.
- Scrivener J. (2012). *Classroom management techniques*. Cambridge: Cambridge University Press.
- Seedhouse, P. (2005). Conversation Analysis and language learning. *Language Teaching*, 38, 165–87.
- Shomoossi, N. (2004). The effect of teacher's questioning behavior on EFL classroom interaction: A classroom research study. *The Reading Matrix*, 4, 96–104.
- Sinclair, J., & Coulthard, R. (1975). *Toward an analysis of discourse*. New York: OUP.
- Susantara, P.A.D & Myartawan, I.P.N.W. (2020). An analysis of teacher questions and student responses in the English teaching learning process. *Journal of Educational Research and Evaluation*, 4(3), 254–258.
- Svanes, I. K., & Andersson-Bakken, E. (2021). Teachers' use of open questions: investigating the various functions of open questions as a mediating tool in early literacy education. *Education Inquiry*, 2(1), 1–20.
- Swain, M. (1985). Communicative competence: Some roles of comprehensible input and comprehensible output in its development. In S. Gass & C. Madden (Eds.), *Input in second language acquisition*

- sition (pp. 235-256). Rowley, MA: Newbury House.
- Swain, M., & Lapkin, S. (2001). Focus on form through collaborative dialogue: Exploring task effects. In M. Baygate. et al. (Eds.), *Researching pedagogic tasks* (p. 99–118). London: Routledge.
- Thornbury, S. (1996). Teachers research teacher talk. *ELT Journal*, 50, 279–289.
- Tsui, A. (2008). Classroom Discourse: Approaches and Perspectives. *Encyclopedia of Language and Education*, 6(1), 2013–2024.
- Van Lier, L. (2000). Constraints & resources in classroom talk: Issues in equality and symmetry. In C. N. Candlin & N. Mercer (Eds.), *English language teaching in its social context: A reader* (pp. 90–107). New York: Routledge.
- Yang, C. C.R. (2010). Teacher questions in second language classroom: An investigation of three case studies. *Asian EFL Journal*, 12(1), 181-201.
- Yang, L. (2017). Grammatical and rhetorical analysis of numerals and measures in English and Chinese. *Journal of Hunan University of Arts and Science (Social Science Edition)*, 32(4), 117–119.
- Young, R. (2011). Interactional competence in language learning, teaching, and testing. In E. Hinkel (Eds.), *Handbook of research in language learning and teaching* (pp.426–443). New York: Routledge.

Biodata

Mina Esmaeilbavili is a PhD candidate of TEFL and an English teacher teaching various proficiency levels in Tabriz, Iran and Istanbul, and Ankara, Turkey. Her research interests include teacher education, testing and assessment, and learner autonomy.

Email: mina_esmaeili87@yahoo.com

Zohreh Seifoori is an associate professor of applied linguistics teaching at Islamic Azad University. She has presented and published international journals. Her research interests include teacher education, learner autonomy, and teaching methodology.

Email: seifoori@iaut.ac.ir

Touran Ahour is an assistant professor of applied linguistics teaching at Islamic Azad University. Her main interests include research in language teaching and SPSS analysis.

Email: ahour@iaut.ac.ir