

Display and referential questions: Effects on student responses

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Abstract

It has been claimed by several researchers, (notably Gass, 1997; Long, 1996; Pica, 1994; Swain, 1995) that, according to the interaction hypothesis of second language acquisition, negotiated interaction facilitates SLA. Swain (1995) coined the output hypothesis, which suggests that pushed output encourages fluency, gap-noticing, and hypothesis testing while controlling and internalizing linguistic knowledge. The current study focuses on display and referential questions in relation to quantity of output, and examines this with regard to researchers' claims about SLA benefits. The output of fifty-two Japanese adult EFL learners was recorded during a communicative activity that used display and referential questions to elicit description. The output was then analysed quantitatively using units of length and complexity (Brock, 1986; Chaudron, 1988) to examine if question type affected output; and instances of pushed output negotiation for meaning were also investigated. A qualitative exploration of students' reflections on their output for the two question types showed common perceived differences and insights into links with motivation. This study indicates that, overall, referential questions in the interactive context of a communicative classroom may be beneficial in promoting enhanced student output, negotiation and SLA.

Keywords: display questions, referential questions, student responses

1. Introduction

Much literature on interaction seems in agreement on the fact that negotiation allows learners to increase their output. Modification of output for clearer understanding (Long, 1996), and adjusting output towards target-like use (Swain, 1985) in turn points towards more opportunities for enhanced SLA. In an EFL context, where learners share a L1, and the teacher plays a more prominent role in facilitating classroom interaction, questioning is one way of eliciting output. Applicable to the context of the communicative language teaching approach, one area of teacher-student interaction influencing enhanced output and learning is question type (Wintergerst, 1994; Mehan, Lintz, Okamoto and Wills, 1995; Hong, 2006; Zorahbi, 2014). This study considers student output for 2 question types: display and referential questions (Brock, 1986). Display questions,

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or questions to which the teacher knows the answers, require students to “display” their knowledge of comprehension, confirmation or clarification e.g. “What does the title on page 4 mean?”, or “What is a synonym for exciting?” Referential questions differ in that the answers are not already known by the teacher at the time of asking e.g. “What are your interests?” or “What are your suggestions for maintaining a healthy lifestyle?” The study looks at display and referential questions in an EFL communicative classroom context in order to investigate (1) which question type elicits more student output (measured by length and complexity of responses) and negotiation, along with (2) what implications this may have for interaction and pushed output promoting SLA (Long, 1996; Swain, 1985, 1995). The following parts of the study will address the two question types with reference to student output and authenticity in a communicative learning context.

2. Literature review

2.1 Interaction, negotiation and student output

The interaction hypothesis (IH), a theory that sees second language acquisition (SLA) as contingent upon face-to-face communication and interaction, suggests that negotiated interaction promotes second language learning. One area common to interactionist research and SLA is ‘negotiation’ and its relation to student output and learning (Gass, 1997; Long, 1996; Pica, 1994). Seminal work on classroom research and the interaction hypothesis by Michael Long (1981, 1996) has generated a large body of research considering types of instruction, student-teacher interaction and language acquisition. Long (1996) defined negotiation as conversation containing “denser than usual frequencies of semantically contingent speech” such as repetitions, extensions, reformulations, corrections or other- and self-initiated output modification and suggested that “negotiation for meaning, and especially negotiation work that triggers interactional adjustments ... facilitates acquisition because it connects input, internal learner capacities, particularly selective attention, and output in productive ways.” (1996: 452-3). Support for the IH also came from studies such as Ellis, Tanaka, and Yamazaki (1994) who looked at the effects of interaction on lexical acquisition.

This negotiation work may lead to an increase in input and a resultant increase in opportunities for student output, as suggested by Swain (1985,

1995). The type of input of differing question types, specifically display and referential questions considered in this study, may also create a variety of student output. The term ‘pushed output’ was coined by Swain, who asserted that although input was necessary for SLA, more importantly, the learner needed to produce language, and to be pushed towards delivering precise, coherent and appropriate output (see also Donesch-Jezo, 2011). Swain (1995) detailed how producing language promotes SLA by enhancing fluency; promoting noticing (of gaps between L1 and L2); hypothesis testing (about comprehensibility or form) and controlling and internalizing linguistic knowledge. In striving to produce understandable output, learners may “notice a gap between what they want to say and what they can say, leading them to recognize what they do not know, or know only partially” (Swain, 1995: 125-126).

Links between interaction and SLA were found by Mackey (1999) in a study of 34 ESL adult learners paired with native speakers. A notable improvement in usage of question forms was seen only in learners of the 14 pairs where interaction was permitted and encouraged. Maintained acquisition was suggested through positive test results up to a month after the initial post-experiment test.

In more recent literature on interaction and acquisition, Ortega (2013) cites two meta-analyses, Keck, Iberri-Shea, Tracy-Ventura, and Wa-Mbaleka (2006) and Mackey and Goo (2007), as crucial in providing empirical evidence for claims of the role of interaction in acquisition of L2 grammar and vocabulary. Firstly, Keck et al. (2006) found, in an overview of 14 task-based interaction studies, that groups using targeted L2 forms during task-based interactions made substantial and sustainable gains (effect size around $d = 0.90$). Similarly, Mackey and Goo (2007) in their meta analysis of studies up to 2007, which included an additional 14 studies, evidenced the links between interaction and learning with an average effect size of $d = 1.07$.

Providing opportunities for ample interaction and output is a central concern in communicative language teaching, one that is framed alongside the argument for authenticity in EFL teaching in the following section.

2.2 Interaction and authenticity in communicative language teaching.

A focus on the necessity of tasks as a way of inducing interaction and student output is stressed in the communicative language teaching

approach by numerous researchers. Nunan (1989) sees learning a language as more than simply learning grammatical patterns and rules: "One also needs to be able to put one's knowledge to communicative effect" (1989: 21). Lightbown and Spada, also proponents of a communicative approach for SL/FL acquisition report that:

Classroom data from a number of studies offer support for the view that form-focused instruction and corrective feed back provided within the context of a communicative program are more effective in promoting second language learning than programs which are limited to an exclusive emphasis on accuracy on the one hand or an exclusive emphasis on fluency. (1993: 105)

Other work on the communicative approach by Brumfit and Johnson (1979), Brown (1994) and Littlewood (1981), also suggest that communicative tasks promote student output and learning.

Determining the exact effects of questions on communicative classroom interaction and student output also points to the underlying issue of authenticity in EFL teaching. Ellis (2003) sees authenticity in the classroom in terms of a learning continuum with situational authenticity e.g. role plays at one end, and interactional authenticity e.g. students describing an image not visible to their partners at the other; the latter being in line with the current study's descriptive activity. Nunan, in his 1987 study of the true nature of communicative classes concludes that "in communicative classes, interactions may not be communicative at all" (1987:144), and, according to Dinsmore (1985: 225) too much "time-passing" occurs instead of meaningful interaction in Japanese EFL classes. Similarly, in studies of teachers' questions and their effectiveness (Long and Sato 1983; White and Lightbown 1984) it has been suggested that, unlike interaction beyond the classroom, teacher talk in class is characterized by the predominant use of display questions. A lack of referential questions is seen to suggest that communicative language teaching may lack meaningfulness. Long and Sato for instance claim that "classrooms are still leaning towards classroom practice which is not meaningful use of language" (Long and Sato, quoted in Wintergerst 1994: 78).

Pinpointing an exact definition of authenticity in the language classroom has proved difficult, and led to much debate concerning classroom authenticity. Earlier researchers define referential questions in terms of communicative interaction occurring outside the classroom, i.e.

“genuine information questions” (van Lier, 1988) and “real questions” (Wintergerst, 1994: 80). However, because learners do cope and learn without real life authenticity, the nature of classroom interaction may be seen to have an authenticity of its own. Indeed Widdowson points to inauthenticity in the language classroom as a strength: “the whole point of pedagogy is ... [to] make ... learning happen more easily and efficiently than it does in natural surroundings” (1990: 163).

Referential questions do have some qualities of authentic communication, such as the questioner not knowing the answer, however, are perhaps more appropriately defined in terms of authentic interaction and communication in the classroom, rather than outside. This position is supported by Cullen, who states that:

... communicative talk (including teachers' questions) must be based primarily on what is or is not communicative in the context of the classroom ... and that the application of criteria of communicativeness solely on the basis of social behavior which exists in certain contexts outside the classroom could result in an inappropriate and ultimately unattainable model for the majority of language teachers to follow. (1998: 180-181)

If referential questions are more authentic in nature, albeit within a classroom context, what evidence does research provide to link them with greater student output?

2.2 Referential questions and extended student output

Several studies have linked enhanced student output with referential questions in interactive or communicative learning contexts. Wintergerst's (1994) study of solicits yielding extended student responses found “referential questions three times as prevalent as any others noted” in discussion lessons, “with beginning lessons somewhat higher than advanced” (1994: 77). Wintergerst's findings that beginner groups used more referential questions is somewhat surprising, as beginner level students might be expected to interact less and produce less output. The fact that referential questions occurred more frequently in discussion lessons is not surprising however, due to the nature of the class i.e. that of discussion, where more extended answers would be expected.

Other interactionist studies have reported a connection between referential questions and enhanced student output and learning. Brock, in

her 1986 study, found that learners in groups where more referential questions were asked gave significantly longer and more syntactically complex responses (a mean length of 10 words vs. 4.23 and 1.19 sentence-nodes per communication unit vs. 0.56 for referential and display questions respectively). Brock concludes that referential questions “may increase the amount of speaking learners do” and that this holds significant implications in second language acquisition (Brock, 1986: 54-55). Nunan (1987) found that the use of referential questions by the teacher resulted in more complex language output being produced by the students. He identified an increase in “features ... characteristic of genuine communication such as ... an increase in the length and complexity of student turns” (1987: 143). Long and Sato discovered that contrary to expectations, “referential questions did not elicit significantly more student speech ... [and that] instead, ... display questions ... elicited more student turns” when control groups and an experimental group were combined (Long and Sato, 1984, quoted in Chaudron, 1988: 174). However, although learner response seemed not to be enhanced, level of lesson mastery improved for the experimental question groups, but not for the control groups, implying that learner acquisition may have been aided by the use of referential questions. More recent SLA studies in the EFL classroom (Hong, 2006; see also Zohrabi, 2014) similarly indicate that student responses for referential questions are longer. Ho, in line with Nunan, claimed that closed or display questions elicit “short, mechanical responses” while open or referential questions elicit “lengthy, often complex responses” (2005: 298).

2.3 Contrary findings

While Wintergerst maintained that questions the elicitor does not know the answer to generate more responses, Tsui reported of teachers failing to elicit more student responses when using referential questions. Tsui cited a teacher who observed that “questions which require long answers put students off” (Tsui, 1996: 161). Tsui’s observation that referential questions do not necessarily elicit more student response could point to a reluctance for teachers to ask these type of questions, as well as a reluctance for students to answer them. This claim is backed by Shomoosi (2004) who reported that teachers asked more display questions than referential questions in EFL classes (see also Burns and Myhill, 2004;

Yang, 2010) and that students struggle to answer referential questions. It is worth noting that student response to referential questions could also be contingent upon their proficiency. David (2007) for instance, in a classroom interaction study, found that display questions promoted more interaction among lower level students when compared with referential questions.

More recent studies look beyond the focus of single question and response to investigate the function of display and referential questions within a broader context, as seen in the following two studies. Difficulty in responding to referential questions is addressed by McNeil (2012) who, drawing on interactionist second language acquisition and sociocultural theories, underscores the importance of teacher talk as a scaffolding tool to assist language learners responding to referential questions. In defense of display question usage in ESL learning, Lee, using sequential analysis, claims that “display questions are central resources whereby language teachers and students organize their lessons and produce language pedagogy” (2006: 691). Both past and current research point to conflicting findings regarding teacher usage of and student response to display and referential questions. It is therefore suggested that further research on the questions and learner output, coupled with student perception on output for the different question types is needed.

3. Initial Reflection: Questions and the complexity of classroom interaction

The incongruities, or lack of generalisation in research on display and referential questions and student output could stem in part from the complexity of classroom interaction and the difficulty of isolating the effects of the questions from other factors influencing student response. The studies considered in the previous section reflect the need for researchers to allow for student output and, by implication, learner acquisition, as being partially contingent on both the nature of the class interaction and the activities being used. The following research (although not all related to teacher questioning) attests to this trend of contextual influence on production and acquisition. Chaudron cites “various situational factors such as group structure and task” (1988: 117) as shaping learner production and Ellis’s (1994) model of L2 acquisition also stresses the importance of situational factors such as target language, formal and

informal settings, and tasks. Learner language production, specifically language use, is also seen to be influenced by class interaction and activity type. Lafford (2004) found that language use of second language learners of Spanish varied according to differing learning contexts when comparing classes in-country or abroad, and, echoing Lafford's findings, a study by Freed, Segalowitz, and Dewey (2004), showed the fluency of second language learners of French as being contingent upon differing learning contexts i.e. classes in-country, abroad or those which were immersion style.

Along with contextual influences, affective factors can also play some part in determining the quantity and quality of a student's response to questions and their language learning in general. Empathy, self-esteem, anxiety and rapport with the teacher and other interlocutors may all affect classroom interaction (Brown, 1994). Tsui (1996) for example, links reticence to anxiety in second language learning. Student motivation, as well as risk-taking ability (especially relevant for referential questions because of their open-endedness) could also influence student output. Lehman for instance (2006, cited in Shams, 2008) also found that affective factors such as attitude and motivation influence learning process in EFL classes. When considering display and referential questions in particular, according to Chaudron, it is plausible that students would have "less motivational drive for using the target language" when addressed with display questions (1988: 117). How to provide communicative tasks with similar contextual and affective influences for display and referential questions was a concern addressed in this study.

4. The Study

4.1 Participants and procedure

The experiment tested ten groups of Japanese students taught by the author in general English courses. The majority of the fifty-two participants were first year students at a private university in Tokyo, enrolled in a general English course. The eight university student groups averaged six students per group. The remaining two groups were adults (also taught by the author) and consisted of one to three learners. The students were selected to include a range of proficiency, with levels from beginner to upper-intermediate and participated in an identical lesson and experiment in the context of oral communication classes.

Research suggests that many factors influence student output such as the cognitive level of a question; level of anxiety inducement; topic knowledge; classroom dynamics and student attitudes may all have effects (Brown, 1994; Holliday, 1994; Tsui, 1996). To limit these factors, the study used display and referential questions in communicative tasks that were as similar as possible. Using the criterion of “the questioner not knowing the answer” for referential questions as the crux of the study, activities describing people’s appearance using similar-looking cartoon caricatures, were employed. The communicative lesson first exposed students to vocabulary and language describing people’s physical appearance, in particular facial features, and then students were required to describe pictures of people (in display referential question contexts) while being recorded.

4.1.1 Description Activities using display and referential questions

In an initial pilot study, a handout featuring target vocabulary and language structures used in describing physical appearances was presented to a test group and practiced using controlled exercises. The handout (also used in the current study) detailed language structures and vocabulary of physical descriptions of people, in particular questions about facial appearance such as, “What kind of face/nose/eyes has s/he got?” and pictures with descriptive vocabulary such as “round/oval/square face; hair parted on the side; long/short/turned-up nose; round/small/almond-shaped eyes” etc.

During the production phase of the lesson, while being recorded, students were firstly asked to select one of four pictures of people, in view of the teacher, and were asked the display questions: “What do/does his/her /face/ hair/eyes/eyebrows/nose/mouth/neck look like?” to elicit a description of the facial features of the person in the picture, using the target language and vocabulary and any other relevant language. All participants, including teacher and students, observed the pictures at this stage, and thus the teacher “knew the answers to the questions”, and was effectively eliciting for display purposes in order to identify the chosen picture.

In the second activity, the referential question activity, students again selected and described one of four pictures from a different set of images, but the teacher was unable to see the picture (the students hid it from view)

and thus did not have prior knowledge of the answers, creating a “referential context”. After asking the same questions as in the previous activity i.e. “What do / does his / her / face/ hair / eyes / eyebrows / nose / mouth / neck look like?”, the teacher listened to the students’ description, and finally viewed the pictures to guess which image had been described. An additional question, “Is it a man or a woman?” was permitted, but not counted in the analysis.

4.1.2 Student interviews and recordings

Finally, the students were briefly interviewed to gain an understanding of their perceptions towards the two activities. Their opinions were sought on the following:

- a) which activity they preferred and why;
- b) whether or not they perceived their responses as different for the two activities;
- c) which activity they thought was the best for learning English and why.

The interviews, implemented with the aim of balancing qualitative and quantitative observation and analysis, served to explore whether or not students perceived referential questions as generating longer and more complex output. Inclusion of interview data ensured that the belief systems of both the researcher and the subjects were taken into account, for a more holistic research approach in keeping with Nunan’s contention stressing “the centrality of the subjective belief systems of those involved in research to the process and outcomes of research” (1992: 71) and Mackey’s (2002) claim that “interaction research could profit from utilizing learners’ perspectives to supplement production data in the ongoing debate about the potentially beneficial processes of interaction.” (2002: 380). Students’ perception of the activities and their learning provided an opportunity to probe into reasons for their feedback choices. The interview data also helped to investigate if referential questions and activities are effective tools in a communicative EFL class. Audio recording and transcription were used to analyse all student responses for the descriptive activities and the interviews. Recording provided a more holistic picture of the classroom interaction than for instance tally sheets

would have, and the obtrusiveness of a video camera also contributed to the choice of user-friendly audio equipment.

4.2 Pilot study biases: alterations to the research tool

The pilot study revealed a number of interesting biases in activity design and teacher behavior. It was observed that the teacher was probably aware of what facial characteristics the four pictures possessed, and therefore the condition of the teacher not knowing the answers was not being met. In order to minimize this bias, two sets of pictures with many similarities were used thereafter. Also, when one set of pictures proved more conducive to description than the other, the choice of picture set was randomized. Another factor potentially setting the bias of the study towards referential questions was the order in which the activities were carried out. During the pilot study the fact that students may have “warmed up” by the second referential activity came to light. More ideas for describing facial features may have come up as the students heard each other’s responses. In order to investigate and counteract this potential effect, the referential activity was conducted *before* the display activity for a number of groups. Finally, it was noted that the teacher’s input, both verbal and non-verbal could easily influence student answers. The necessity for the teacher to use the same amount of encouragement for both activities, whether it be verbal or non-verbal gesturing or extra questions such as “Anything else?” was also recognized, as was the need to allow a consistent amount of wait time in both display and referential question activities.

4.3 Analysis

Recorded student output from the display and referential question activities and the student interviews were transcribed and analysed by the author. Length and complexity of student responses were taken as a measure to investigate differences in quality and quantity of student output for the two question types, and hence as an indicator of negotiation for meaning and pushed output. While researchers such as Mackey (1999) focused on native-non-native interaction and implicit negative feedback from native speakers in negotiation, the current study, which minimized teacher feedback to limit study biases, includes negotiation *between*

students to investigate output quality and the 2 question types. This focus is in line with Pica, Lincoln-Porter, Paninos and Linnell (1996), who attest that output modification does not vary when driven by native or non-native speakers and Long who looks at "...negotiation work that triggers interactional adjustments by the NS or *more competent interlocutor*..." (1996: 451-2 my emphasis, see also Shehadeh, 1999). To examine output for instances of negotiation, Long's features of repetitions; extensions; reformulations; corrections; and other-and-self-initiated output modification were used. Although acquisition was not empirically tested, language and vocabulary of description was analysed to determine which type of question elicited more enhanced output, in terms of syntactical complexity (Brock, 1986) and quantity of descriptive vocabulary, and implications for communicative classroom questioning techniques, interaction and learning were considered.

Categories of analysis signaling pushed output and meaning negotiation (through more syntactical complexity) were:

Length

- mean length of response per question in words

Complexity

- mean number of c-units per question
- number of facial features described per activity
- number of facial features described per activity not using pre-taught target language

Data calculation was based partly on the categories of analysis used by Brock and Chaudron. Brock uses sentence nodes, or "s-nodes" per communication unit as a measurement of complexity, and uses infinitives, gerunds, and tensed verbs to signal an underlying "s-node" (1986: 52) and in her definition of c-units, draws on Loban (1963) who sees c-units as:

Grammatical independent predication[s] or answers to questions which lack only the repetition of the question elements to satisfy the criterion of independent predication ... "Yes" can be admitted as a whole unit of communication when it is an answer to a question such as "Are you sick?"
(Loban, quoted in Brock, 1986: 52)

In measuring the number of c-units, she did not discount speech that “lacked or included incorrectly the copula, the personal pronoun it, an auxiliary verb, prepositions, articles, or inflexional morphology” (Brock, 1986: 52).

In the current study, mean length in words of student responses to questions was calculated, but (cf. Brock) all responses to display and referential questions were considered, as were repetitions of words or phrases. Time fillers such as “ahh” and “umm”, words in Japanese, sounds of laughter, stutters and questions such as “How to say?” were not counted.

The complexity of responses was also determined using the average number of communication units per group response to a question. A communication unit is defined by Chaudron as “an independent grammatical predication [but for] oral language, elliptical answers to questions also constitute complete predications” (1988: 45). In this way “short” may be a satisfactory unit of communication when it is the answer to a question such as “What kind of hair has he got?” Repetitions were counted as they can be seen to contribute to comprehension (1988: 45), an important fact given that the experiment was based on a descriptive activity. Words realised to be mistakes by the learner which were corrected (along with echoes) were not counted. In accordance with Brock (1986), responses misusing or lacking in the copular, e.g. “He is black hair”; the personal pronoun “it”; prepositions; articles or inflexional morphology, e.g. “He look happy”, were accepted as communication units.

Complexity of learners’ responses was also analysed in terms of amount of descriptive production. This was determined by the number of different facial features described per activity, including and other than the handout target vocabulary (repetitions of facial characteristics were not counted). Certain features, although not occurring in the target vocabulary handout were counted as they were a combination of words from different parts of the list e.g. “thick lips” was considered target language whereas “wide mouth” was not.

5. Results

Student output data was analysed for overall length and complexity; instances of negotiation and pushed output; and any discernable patterns linked to which type of activity was performed first i.e. display question activity or referential question activity being asked first.

5.1 Overall length of student output.

Extensiveness of output was consistently greater for referential questions than for display questions for all ten groups in the experiment. The mean length of student responses per referential question was 18.45 words (see TGMs, table 1) in contrast with display questions, which elicited a mean of 8.51 words per group response. (During the study, the number of teacher questions asked for the two types of questions was consistent, with a mean value of 6.2 for referential questions and 6.5 for display questions). Students in group 2 responded to the question “What kind of eyes has s/he got?” with the following answers, showing lengthier output for the referential question context, when the image being described was not visible to the teacher:

a) display

S3: he has got blue eyes

S2: with ((inaud.))

b) referential

S1: he has thin eyes ... but a little big ... not parallel ... like a mountain ...

like a fo-fog eye ... fox!

S? //fox//cute//

S1 brown or black-brown eyes

Here, in the longer referential response, the interlocutor S1 demonstrates an extended response in order to be more comprehensible when describing a man’s eye shape. Several attempts to pinpoint the shape produce an adjective “thin”, and adjective phrases “a little big”, “not parallel” before the learner uses similes and a final self-correction “Like a mountain...like a fo-fog eye...fox”. Use of connectives such as “but” and “or” enhance the length and complexity of the referential example, as do the increased number of facial features described in the more elliptical parts of the answer.

Table 1 Learner production: Length and Complexity

Group No	Length		Complexity					
	Mean Length of response per question †		Mean no. of c-units per question ††		No. facial features described including target language per activity		No. facial features other than target language per activity	
	Disp	Ref	Disp	Ref	Disp	Ref	Disp	Ref
1	6.80	9.57	1.10	1.86	11.00	12.00	2.00	4.00
2	11.83	28.00	1.43	4.78	15.00	35.00	5.00	18.00
3	9.00	27.17	3.29	7.63	15.00	33.00	7.00	12.00
4	6.00	10.14	1.43	2.50	8.00	19.00	2.00	5.00
5	4.60	9.85	3.60	2.57	16.00	19.00	2.00	6.00
6	6.17	21.80	1.83	7.20	11.00	24.00	2.00	8.00
7	5.50	14.50	2.33	3.25	9.00	24.00	1.00	7.00
8	7.80	20.75	1.50	5.00	9.00	18.00	1.00	2.00
9	11.25	32.00	3.25	8.67	14.00	21.00	5.00	8.00
10	11.17	10.75	2.00	2.00	12.00	17.00	2.00	3.00
TGM	8.51	18.45	2.18	4.55	12.00	22.20	2.90	7.30

Key: Disp = display question

Ref = referential question

TGM = total group mean value

† = total no. of words in response to all questions ÷ no. questions

†† = total no. c-units in response to all questions ÷ no. questions

Although not measured in this study, an increased number of student turns is also present. The only anomaly in this section concerned the subject in group ten, an intermediate-level student being taught for the first time in place of the regular student. The student's lack of familiarity with the classroom situation may have affected the result, as well as the fact that there was only one student in the group.

5.2 Complexity of student production

5.2.1 C-Units

An overall difference in complexity of student output for the two types of questions was also noted. The total group mean of c-units per question was determined as 4.55 and 2.18 for referential and display questions respectively. Two of the ten groups in the study yielded results to the contrary, (see groups 5 and 10) but these were not enough to affect the total group mean. The example of student output above (in section 5.1) was selected from an intermediate level group, where more complex responses featuring more c-units, may be expected. A further example, from a pre-intermediate level group, shows the same trend of more complex output for the referential questions:

T: what kind of hair has he got?
 a) *display*
 S1: his hair is side
 S2: side...on side...on? hair side on hair
 S1: and his hair is brown ... brown and short length hair

b) *referential*
 S1: his hair is-
 S2: wavy and side on ...
 SS: //short//
 S1 brown and side-side is white ... white hair side
 S2: and hair's sidish white and a little wavy
 S4: wavy
 S5: //wavy//
 He front face is front hair is wave ((gestures))
 S?: his front hair wave oh
 S1: down up down ... up down up!
 S2: *takusan itta hou ga ii* ((tr. We'd better say a lot))

Instances of self-correction and correction of S1s comment "his hair is side" are seen in S2s attempts to describe a man's face with wavy hair parted on the side: "side...on side...on? wavy and side on...and hair's sidish, white and a little wavy." Reformulation is also seen as S? corrects S5's response "front face" to "front hair", which is then echoed by S5. Echoing of the word "wavy" was also prominent. Although output modification such as correction, echoing and repetition may have interfered somewhat with clarity of student output, the student's enthusiasm in describing exact details of the man's hair suggests a push towards comprehensibility in the referential example, as is S2's final

encouraging remark. Correction in negotiation of meaning, also indicative of enhanced production, was more evident in response to referential questions, both in verbal and non-verbal forms e.g. when describing a face:

S1: his face is round
 S3: hm:::?
 SS: ((laughter))
 S3: triangular!
 S1: ah triangular ... I'm sorry

The students here negotiate a vocabulary point in order to use a new vocabulary item “triangular” when describing a person’s face shape. The non-verbal cue “hm:::” with rising intonation is indicative of mild disagreement, and laughter may diffuse any tension associated with the disagreement, after which S3 recalls the correct word “triangular!”. S1 accepts the correction and acknowledges with repetition “ah triangular...I’m sorry”. In the process of negotiation S1 was pushed to notice the difference between the vocabulary item she used and to the target vocabulary item “triangular”. A further example of negative feedback and correction pushing output occurred in reply to a referential question when describing a nose:

S2: and his nose is turned up nose is turned up
 S1: e:::h? *nani*((tr: what?)) ... nose!

5.2.2. *Frequency of facial characteristics described*

Learners’ responses also yielded noticeably different results when the number of facial features described (including target language) was investigated. For referential questions a group mean of 22.2 features per description was noted, and for display questions, a lower mean of 12.0 characteristics was found.

When features other than target language were isolated, it was found that a mean number of 2.9 features per description were produced for display questions in comparison with a higher mean of 7.3 for referential questions. Finally, non-verbal communication in the form of gestures, questioning sounds and sounds of agreement were all more prevalent in the responses to referential questions, as was the tendency for students to want to use dictionaries in order to communicate more clearly.

Output, in terms of number of facial features described, was found to be doubled or more than doubled for most groups when responding to referential questions. This trend was evident for descriptive output *other than* target language, which showed students “going the extra mile” to describe the person’s face. Table 2 shows representative data from groups 2, 6 and 9:

Table 2 Descriptive output of facial features other than target language

Group No.	Display question responses	Referential question responses
2	upper side is thicker than the lower side (mouth), face like a baseball base, he is wearing glasses, wiggly (lines) forehead is wide	not parallel (eyes), like a mountain (eyes) fox eye, good combination of eye and eyebrows! sharp eyebrows, top is flat (nose), two cheeks are so big so the nose is a little bit crushed, his mouth is shaped like when you drink a little glass; when we eat food the sour things, upper side is so sharp (ears), like a bat ear, his cheeks are about a third of his face, he looks Asian, Korean, I thought he was a woman! his chin like including having candy in his chin!
6	small but sexy (mouth), she is beautiful	slide, sloping cheeks, his cheeks are half, he has hollow cheeks, he has glasses, he has a lot of wrinkles, light-brown (hair), 7-3, more big ears
9	mushroom cut! blue eye-shadow, she put on a lot of mascara, big earrings, medium (sized mouth)	he wears glasses, a little bit long nose, light skin, wrinkle cheek, (wrinkle) under eyes, (hair is bald) but not all of them, wrinkle between eyebrows, (wrinkle) under the mouth, hair is light brown

In response to the referential questions, students described features in more depth. A student in group 2, for instance, striving to clearly communicate a pursed mouth shape used repetition and extension in a creative description: “his mouth is shaped like when you drink a little glass; when we eat food the sour things” and a learner from group 6 extends and reformulates in search of the lexical item “hollow”: “slide, sloping cheeks, his cheeks are half, he has hollow cheeks”.

5.3 Output length and complexity in relation to order of activities

This study also looked at possible trends in results according to which set of questions (display or referential) was asked first. Table 3 regroups results according to which kind of question activity, display or referential, was conducted first, and a comparative analysis of the group mean results for activity type follows in diagrams 1 and 2.

Table 3 Activity Order and Length and Complexity of Output

Group No	Length		Complexity					
	Mean length of response per question †		Mean no. of c-units per question ††		No. facial features described including target language per activity		No. facial features other than target language per activity	
	Disp	Ref	Disp	Ref	Disp	Ref	Disp	Ref
1 ‡	6.80	9.57	1.10	1.86	11.00	12.00	2.00	4.00
2 ‡	11.83	28.00	1.43	4.78	15.00	35.00	5.00	18.00
4 ‡	6.00	10.14	1.43	2.50	8.00	19.00	2.00	5.00
6 ‡	6.17	21.80	1.83	7.20	11.00	24.00	2.00	8.00
8 ‡	7.80	20.75	1.50	5.00	9.00	18.00	1.00	2.00
9 ‡	11.25	32.00	3.25	8.67	14.00	21.00	5.00	8.00
‡GM	8.31	20.38	1.76	5.00	11.33	21.50	2.83	7.50
3*	9.00	27.17	3.29	7.63	15.00	33.00	7.00	12.00
5*	4.60	9.85	3.60	2.57	16.00	19.00	2.00	6.00
7*	5.50	14.50	2.33	3.25	9.00	24.00	1.00	7.00
10*	11.17	10.75	2.00	2.00	12.00	17.00	2.00	3.00
*GM	7.57	15.57	2.81	3.86	13.00	23.25	3.00	7.00

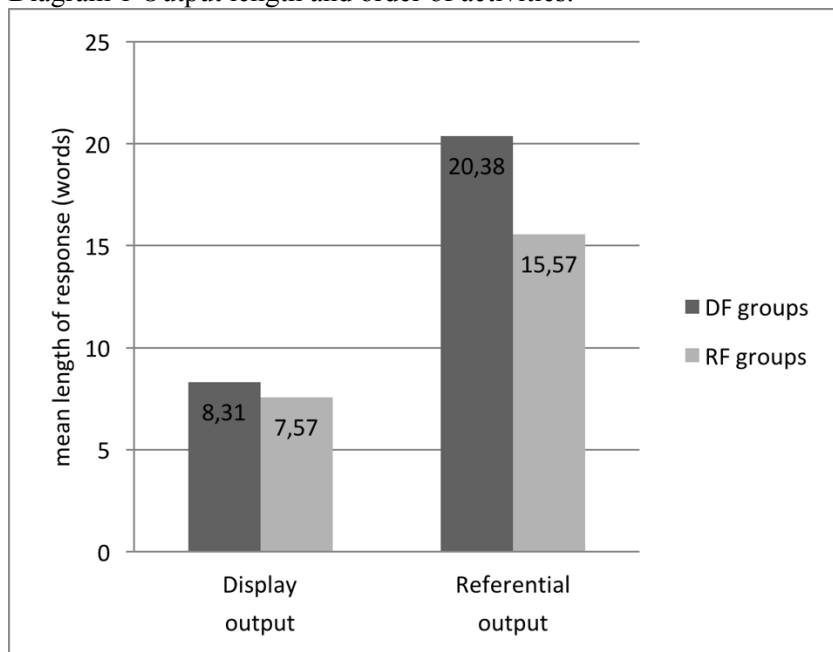
Key: Disp = display question

- Ref = referential question
- GM = group mean value
- TGM = total group mean value
- † = total no. of words in response to all questions ÷ no. questions
- †† = total no. c-units in response to all questions ÷ no. questions
- ♦ = groups asked display questions before referential questions
- * = groups asked referential questions before display questions

Investigation into the possible “warming-up” effect increasing output in the second activity for each group produced largely inconclusive findings. This indication of no link between activity order and resultant trends may have been due to careful monitoring of number of questions; time for responses etc. to reduce bias in the study.

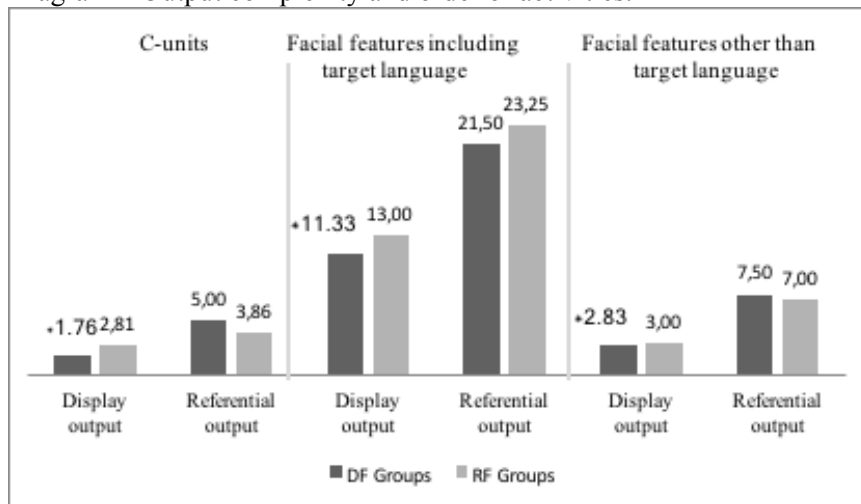
Slightly longer group mean responses were seen for groups which were asked display questions first (DF groups) in comparison with groups which were asked referential questions first (RF groups), both for display production and referential production, but the differences were relatively small (see bar diagram 1).

Diagram 1 Output length and order of activities.



Overall, when data on complexity of output was investigated in relation to order of activities, mean calculations for DF groups did not differ enough from means for RF groups to point to any strong trends (see graphs 1, 2 and 3). Analysis of c-unit output showed DF and RF group means differed only minimally, by 1.05 (2.81- 1.76) for display question production and 1.14 (5.00-3.86) for referential question production. Similarly, the differences in mean group values for number of characteristics including target language were not substantial: 1.67 (13.00-11.33) for display output and 1.75 (23.25-21.50) for referential question output. Group means for characteristics other than target language also showed only small differences with 0.17 (3-2.83) for display and 0.5 (7.50-7.00) for referential question output. One trend that was consistent for all DF groups was that display output was lower in value than RF groups, for all 3 categories of complexity (see asterisked values in diagram 2). It should be noted however that this result does not support a case for less complex output if the first activity is display, due to the small differences in mean groups output values for DF and RF groups.

Diagram 2 Output complexity and order of activities.



5.4 Student interview findings

Findings from the student interviews backed quantitative findings, which pointed to enhanced student output for referential questions, and provided some insight into how the learners perceived interactional output generated by the different question types. Student interviews showed that learners felt the referential question activity to be of more interest, conducive to producing longer, more detailed and complex output, and to be of more value for learning. An overall theme of motivation in interaction was also noted in feedback for referential question activities, as highlighted by the following comments.

One student reported that “[w]e thought very careful[ly]” during the referential question activity, pointing to a potential awareness for the need to increase cognitive activity for the referential questions, and a possible increased focus on accuracy before expressing output.

Increased motivation, although not directly examined in this study, appears to be a factor enhancing referential question output for another student who commented, “I tried harder and harder to describe [when the teacher could not see the chosen face]”. The student’s willingness to attempt more a more detailed description i.e. being pushed towards lengthier and more complex output for effective communication is evident for referential questions.

Further feedback reflected a perceived increase in accuracy for the referential activities: “[In] the [referential] activity we tried to describe more accurately”. This comment may support the trends of increased use of target and non-target language and vocabulary, as seen in the quantitative data, and may suggest that students were aware of their motivation to modify output towards learning and using the target language more effectively.

In sum, benefits of the referential activity were seen by students as including increased length and accuracy of output and increased motivation as reported by this student: [The referential question activity] was better because it ... needs accuracy, it was creative and we were having fun, speaking more accurately say[ing] more words and communicating more.”

6. Discussion of findings and implications for further study

To summarise, the findings of this study indicate that the use of referential questions employed in a communicative task may push students to engage more in negotiation and give lengthier and more complex responses than display questions. Results for syntactical complexity and vocabulary usage showed that output was increased in all categories (length, c-units and amount of facial feature vocabulary described) for referential questions. Data did not reveal any trends relating to the order of activities i.e. whether the display or referential activity was conducted first, which may point to a successful reduction of study biases. The current study, while acknowledging contextual and affective influences on learner responses, suggests that if referential and display questions are posed in very similar conditions i.e. using the same group members, questions and communicative activity type, differences in responses due to question types may be accurately measured. Student interviews added qualitative support to empirical data trends showing longer and more complex responses for referential questions, and further pointed to the role of motivation influencing student interaction and output. By implication, the study's findings point to the benefits of referential, or more authentic questions to enhance student output.

It is acknowledged that the current study is not without its limitations, in particular, the challenge of isolating effects of factors such as activity type, question type and motivation and their influences on student output. Using a description activity to measure responses to display and referential questions was effective as it allowed the two types of questions to be asked in similar contexts. In counterclaim, it could be argued that because the target language was neither long nor complex (average 4.25 words per sentence) students may have tended to respond with short elliptical sentences. It is also noted that there may have been an added motivational element associated with the teacher not seeing the pictures in the referential activity. It is suggested however, that it is part and parcel of the nature of referential questions for the elicitor "not to know the answers", and therefore the activity was in fact a viable means of measuring student responses, especially given the controls implemented to limit biases and make the activities as similar as possible.

The results of this study indicate that, in line with Mackey's (1999) study on the benefits of task-based interaction in the language learning classroom, an increased use of referential questions in EFL classes could

contribute to more interaction such as negotiation and enhanced student output. The current study supports previous studies (Brock, 1986; Nunan, 1987; Hong, 2006; Zohrabi, 2014) in finding that referential questions produce longer and more complex responses. In their own words, students “tried harder and harder to describe” when the teacher did not know the answers to the referential questions.

Results of this study point especially to output containing more extensive use of target vocabulary and other language describing facial features i.e. a push for accuracy and comprehensibility, when referential questions were asked. Evidence of more pushed output and negotiation generated by the referential questions, indicated more push for accuracy, for instance in responses that involved correction of ‘round’ to target vocabulary item ‘triangular’ or the search for the target language ‘hair parted on the side’ (see section 5.2.1). As suggested by Swain (1995) “output may stimulate learners to move [towards] accurate production.” (1995:128). The increased negotiation and output stimulated by referential questions could indicate that learners were working towards more effective linguistic assimilation, in support of Nunan’s view that referential questions “prompt far greater depth of processing” and “may be a greater stimulus to acquisition” (1989: 30-31). Similarly, the current study’s findings of increased length and complexity of output for referential questions, coupled with increased negotiation features (repetition, echoing, reformulation, self and other-initiated correction) may lend some support to interaction hypothesis claims (Gass, 1997; Long, 1996; Pica, 1994) that negotiated interaction promotes SLA and also to Ellis, Tanaka and Yamazaki’s (1994) claims that interaction influences lexical comprehensibility. It also follows that if referential questions promote output, they may be beneficial tools in communicative language classroom, especially for teachers concerned with promoting increased output in communicative or task-based activities.

Students’ perceptions of question type and resultant output, backed empirical findings of increased output for referential questions. Students’ feedback also pointed to the role of motivation in the referential activities, an aspect not directly studied, but one that could be linked to authentic classroom interaction and its benefits in the communicative activities. Students were more invested in communicating when the teacher did not know the answer to the questions - reporting that it was more interesting, that they had more fun. Learners perceived themselves as paying more

attention to accuracy and giving lengthier responses. In line with Chaudron (1988) less drive was present for using target language in display question activities. Perhaps due to this heightened authenticity and motivation, students were more likely to notice gaps in their L2 (Swain, 1995), and be pushed towards more output and syntactical and lexical accuracy by referential questions. It is suggested that the authenticity of display, referential and real questions can be represented as being situated on a continuum (see figure 1). The continuum illustrates how, although referential questions are defined in terms of classroom context, they also may overlap in quality with ‘real’ questions when interaction is close to that of interaction outside of the class, for instance when students negotiated for meaning and when they were motivated to describe more if the teacher could not see the picture being described.

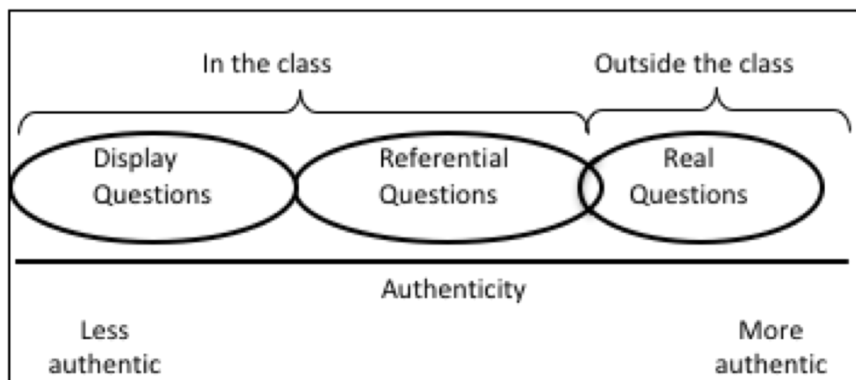


Figure 1: Continuum of authenticity in question types

In fact, in a wider classroom context, a far greater range of categories would exist on the continuum. Brown, for instance, lists categories of questions ranging from display to referential as: “knowledge”; “application”; “inference”; “analysis”; “synthesis” and “evaluation” (1994: 166). Researchers have noted the difficulty in determining distinct and clearly observable question categories (Banbrook and Skehan, 1989). There may indeed be flexibility in the positioning of referential questions on the continuum, as indicated by the overlapping area in the figure). Some referential questions, such as, “Which activity do you think is best for

studying English” and “Why?” may be closer to real communication because of their aspect of eliciting learners’ personal opinions.

For further study in this area, the connection between question type and motivation; group dynamics; turn taking; level of student proficiency; type of activity and computer-mediated discussion would be areas worth investigation. Further study on input, task type and negotiation along with more in depth empirical and qualitative study of self-repairs and meaning negotiation, using larger groups of participants, would also contribute to the body of research on interaction and learning.

In conclusion, this study’s findings indicate that students, when responding to referential questions, appeared to be trying to paint a clearer picture in the mind of the questioner, whereas for display questions, they aimed only at “joining the dots” of the teacher’s prescribed picture. This is not to say that there is no place in the English language classroom for display questions. Referential questions however, may be one key to communicative interaction of greater length and higher quality. These claims of enhanced output can be seen as adding to the body of research on interaction, negotiation and output, and SLA (Long, 1996; Swain, 1985; Mackey, 1999), by suggesting that the interaction and pushed output elicited by the referential questions as in the communicative task-based activities of this study, may promote SLA.

References

- Banbrook, L., and P. Skehan. 1989. Classroom and display questions. In C. Brumfit and R. Mitchel. Eds. *Research in the language classroom*. London. Modern English Publications in association with the British Council.
- Brock, C. A. 1986. The effects of referential questions on ESL classroom discourse. *TESOL Quarterly* 20-1: 47-59.
- Brown, H. D. 1994. *Teaching by principles: An interactive approach to language pedagogy*. New Jersey: Prentice Hall.
- Brumfit, C. J. and K. Johnson. Eds. 1979. *The communicative approach to language teaching*. Oxford: Oxford University Press.
- Burns, C. and D. Myhill. 2004. Interactive or inactive? A consideration of the nature of interaction in whole class teaching. *Cambridge Journal of Education* 34-1: 35-49.

- Chaudron, C. 1988. *Second language classrooms: Research on teaching and learning*. Cambridge: Cambridge University Press.
- Cullen, R. 1998. Teacher talk and the classroom context. *ELT Journal* 52-3: 79-187.
- David, F. O. 2007. Teachers' questioning behavior and ESL classroom interaction pattern. *Humanity & Social Science Journal* 2-2: 127-131.
- Dinsmore, D. 1985. Waiting for Godot in the EFL classroom. *ELT Journal* 39-4: 225-234.
- Donesch-Jezo, E. 2011. The role of output and feedback in second language acquisition: A classroom based study of grammar acquisition by adult English language learners. *The Journal of Estonian and Finno-Ugric Linguistics (ESUKA – JEFUL)* 2-2: 9-28.
- Ellis, R. 1994. *The study of second language acquisition*. Oxford: Oxford University Press.
- Ellis, R. 2003. *Task-based language learning and teaching*. Oxford: Oxford University Press.
- Ellis, R., Y. Tanaka, and A. Yamazaki. 1994. Classroom interaction, comprehension, and the acquisition of L2 word meanings. *Language Learning* 44: 449-491.
- Freed, B. F., N. Segalowitz, and D. P. Dewey. 2004. Context of learning and second language fluency in French: Comparing regular classroom, study abroad, and intensive domestic immersion programs. *Studies in Second Language Acquisition* 26-2: 275-301.
- Gass, S. 1997. *Input, interaction, and the second language learner*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Ho, D. G. E. 2005. Why do teachers ask the questions they ask? *Regional Language Centre Journal* 36-3: 297-310.
- Holliday, A. 1994. *Appropriate methodology and social context*. Cambridge, New York, Melbourne: Cambridge University Press.
- Hong, Y. 2006. A report of an ESL classroom observation in two language schools in Auckland. *TESL Canada Journal/Revue TESL du Canada* 23-2: 1-11.
- Keck, C. M., G. Ibarra-Shea, N. Tracy-Ventura, and S. Wa-Mbaleka. 2006. Investigating the empirical link between task-based interaction and acquisition: A meta-analysis. In J. M. Norris and L. Ortega. Eds. *Synthesizing research on language learning and teaching*. Amsterdam: John Benjamins. 91-131.

- Lafford, B. A. 2004. The effect of the context of learning on the use of communication strategies by learners of Spanish as a second language. *Studies in Second Language Acquisition* 26-2: 201-225.
- Lee, Y.-A. 2006. Respecifying display questions: Interactional resources for language teaching. *TESOL Quarterly* 40-4: 691-713.
- Lehman, S. 2006. Second-language learning and changes in the brain. *Journal of Neurolinguistics* 9-21: 509-521.
- Lightbown, P. M. and N. Spada. 1993. *How languages are learned*. Oxford: Oxford University Press.
- Littlewood, W. 1981. *Communicative language teaching: An introduction*. Cambridge: Cambridge University Press.
- Long, M. H. 1981. Input, interaction, and second language acquisition. In H. Winitz, Ed. *Native language and foreign language acquisition annals of the New York Academy of Sciences* 379. New York Academy of Sciences: New York. 259-278.
- Long, M. 1996. The role of the linguistic environment in second language acquisition. In W. C. Ritchie and T. K. Bhatia. Eds. *Handbook of second language acquisition. Volume 2: Second language acquisition*. New York: Academic Press. 413-468.
- Long, M. H., and C. J. Sato. 1983. Classroom foreigner talk discourse: forms and functions of teachers. In H. W. Seliger and M. H. Long. Eds. *Classroom oriented research in second languages*. Rowley, MA: Newbury House. 268-85.
- Mackey, A. 1999. Input, interaction, and second language development: An empirical study of question formation in ESL. *Studies in Second Language Acquisition* 21: 557-587.
- Mackey, A. 2002. Beyond production: Learners' perceptions about interactional processes. *International Journal of Educational Research* 37: 379-394.
- Mackey, A. and J. Goo. 2007. Interaction research in SLA: A meta-analysis and research synthesis. In A. Mackey. Ed. *Conversational interaction in second language acquisition: A series of empirical studies*. Oxford Applied Linguistics. Oxford: Oxford University Press. 407-453.
- McNeil, L. 2012. Using talk to scaffold referential questions for English language learners. *Teaching and Teacher Education* 28-3: 396-404.
- Mehan, H., A. Lintz, D. Okamoto, and J. Wills. 1995. Ethnographic studies of multicultural education in classrooms and schools. In J.

- Banks and C. Banks. Eds. *Handbook of research on multicultural education*. New York: MacMillan. 129-144.
- Nunan, D. 1987. Communicative language teaching: Making it work. *ELT Journal* 41-2: 136-145.
- Nunan, D. 1989. *Designing tasks for the communicative classroom*. Cambridge: Cambridge, New York, Melbourne: Cambridge University Press.
- Nunan, D. 1992. *Research methods in language learning*. Cambridge: Cambridge University Press.
- Ortega, L. 2013. *Understanding second language acquisition*. London and New York: Routledge Taylor & Francis Group.
- Pica, T. 1994. Research on negotiation: What does it reveal about second-language learning conditions, processes, and outcomes? *Language Learning* 44: 493-527.
- Pica, T., F. Lincoln-Porter, D. Paninos, and J. Linnell. 1996. Language learners' interaction: how does it address the input, output, and feedback needs of L2 learners? *TESOL Quarterly* 30-1: 59-84.
- Shams M. 2008. Students' attitudes, motivation and anxiety towards English language learning. *Journal of Research and Reflections in Education* 2-2: 121-144.
- Shehadeh, A. 1999. Non-native speakers' production of modified comprehensible output and second language learning. *Language Learning* 49: 627-675.
- Shomoossi, N. 2004. The effect of teachers' questioning behavior on EFL classroom interaction: A classroom research study. *The Reading Matrix* 4-2: 96-104.
- Swain, M. 1985. Communicative competence: Some roles of comprehensible input and comprehensible output in its development. In S. Gass and C. Madden. Eds. *Input in second language acquisition*. Rowley, MA: Newbury House. 235-253.
- Swain, M. 1995. Three functions of output in second language learning. In G. Cook and B. Seidlhofer. Eds. *Principle and practice in applied linguistics: Studies in honour of H. G. Widdowson*. Oxford: Oxford University Press. 125-144.
- Tsui, A. B. M. 1996. Reticence and anxiety in second language learning. In K. M. Bailey and D. Nunan. Eds. *Voices from the language classroom: Qualitative research in second language education*. Cambridge: Cambridge University Press. 145-167.

- Van Lier, L. 1988. *The classroom and the language learner: Ethnography and second- language classroom research*. New York: Longman.
- White, J., and P. M. Lightbown. 1984. Asking and answering in ESL classes. *The Canadian Modern Language Review* 40-2: 228-244.
- Wintergerst, A. C. 1994. *Second-Language classroom interaction: Questions and answers in ESL classes*. Toronto, Buffalo, London: University of Toronto Press.
- Widdowson, H. 1990. *Aspects of language teaching*. Oxford: Oxford University Press.
- Yang, C. C. R. 2010. Teacher questions in second language classrooms: An investigation of three case studies. *Asian EFL Journal* 12-1: 181-201.
- Zohrabi, M., M. Yaghoubi-Notash, and S.Y. Khiabani. 2014. Teachers' use of display vs. referential questions across different proficiency levels. *International Journal of Applied Linguistics and English Literature* 3-2: 96-100.