

A Study of Teacher Questioning in Interactive English Classroom

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Abstract: This essay presents a study of teacher questioning in interactive English classroom. Interaction plays a key role in second language classroom. Teacher questioning, as one of the teacher initiating activities, could facilitate students' language acquisition by asking questions and initiating responses from students. In this essay, two samples of teacher questions were looked into to find out the types, purposes and effectiveness of teacher questions. It was found that the experienced teacher was better at employing teacher questions for interaction than the student teacher. Both of them should improve the questions they asked in classroom. More effective teacher questioning should be introduced according to specific language learning environment by referring to the cognitive level of the students and more opportunities and motivation should be provided for students' response.

Key words: interaction; teacher questioning; second language learning; Initiation-Response-Feedback (IRF) pattern

1. Introduction

In Second Language Learning (SLL), interaction seems to exist as the central feature. Interaction between teachers and students is inter-related with students' language acquisition and can facilitate language learning. It can also engage students in participating language learning activities to have more input of the language. In SLL context, language learning is mainly conducted by language teachers. Therefore, interaction initiated by the teacher can be in different ways such as teacher questioning, teacher instructions, or any other kind of activities that will facilitate learners' language acquisition.

This essay focuses on teacher questioning in the SLL classroom. First, a picture of the interactive language learning classroom is presented. Then, teacher questioning in the second language teaching context is discussed. After that, a study about two samples of teacher questioning in class in Chinese junior middle schools would be analyzed. The two samples of teacher questioning are compared in terms of types of questions asked and the availability of questions. Finally, a conclusion about the analysis is made and the implications of effective teacher questioning in the SLL are provided.

2. Language Acquisition through Interaction and Teacher Questions

2.1 Interaction and language acquisition: Input and output in second language classroom

Language acquisition mainly refers to the process by which both linguistic competence and communicative competence are acquired by learners. It can be conducted through direct exposure of the target language to learners and it can also be based on the formal language instruction (Ellis, 1999: 12). In an interactive pattern of

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language learning context, there is frequent interaction between the teacher and learners and among learners themselves.

SLL theory has long recognized the role of input and output of language as the most important factors towards the successful learning of a second language (see Figure 1). The comprehensible input theory by Krashen (1981, 1985, 1989, in Ellis, 1994: 273) claims that:

(1) Learners make progress in language learning by their perception of input above their current level of knowledge.

(2) Comprehensible input is not a sufficient condition for Second Language Acquisition (SLA) to take place. Learners should equally be inclined to assimilate what they comprehend.

Learners progressively develop from stage i to stage $i+1$ along a pre-fixed series of stages¹. For acquisition to take place, learners have to be able to absorb the appropriate parts of the input (Cook, 2000). By receiving more comprehensible input, learners can gain more proficiency in the target language. However, “input alone is not sufficient for acquisition” (Gass, 1997: 138). Swain (1985, in Gass, 1997: 138) posited that learners need the opportunities for meaningful use of their linguistic resources to achieve full grammatical competence. Output in SLL may simply be the practical application of the existing language knowledge acquired by learners.

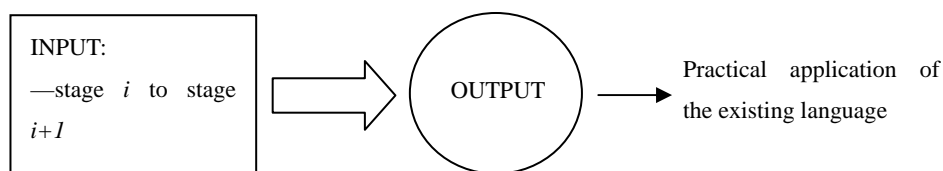


Figure 1 Input & output in interaction

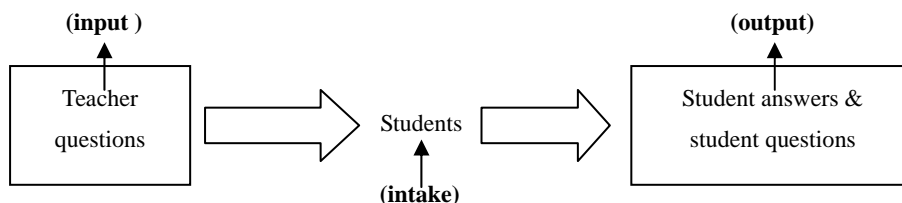


Figure 2 Input & output through teacher questioning

As Figure 2 shows, in the second language classroom, where teacher questioning is concerned, intakes through teacher questioning can facilitate students’ output in the target language. Teacher questions act as language inputs for language learners and students’ answers to teacher’s questions are language outputs. Students’ response includes their answers to the teacher’s questions as well as the questions they ask. Besides, more should be emphasized on the quality of responses. Quality here is not assessed in terms of the time an interaction in the target language is maintained but rather in terms of how interactions among students or with the teacher can reflect their higher level of cognitive thinking.

2.2 Interaction in second language teaching: the IRF pattern of classroom interaction

In the teacher-dominated language classroom, the interaction pattern generally follows the

¹ “... we move from i our current level, to $i+1$, the next level along the natural order, by understanding input containing $i+1$ ” (Krashen, 1985: 2, in Mitchell, et al, 1998: 126).

Initiation-Response-Feedback (IRF) sequence. The characteristic of such classroom interaction pattern is the “invariability”² in the classroom described by Johnson (2000). Hence, Mehan (1979, in Johnson, 2002: 21) states that the teacher must set up the structure in which students can learn to speak to deal with invariability in the interactive classroom. In other words, the teacher must set a particular framework within which students will interact, for example, when a student starts to deviate from the target language, he/she must coach the learner skillfully until he/she is back on track again.

The teacher is also the language initiator and the one in generating the opportunities for learners to practice the target language. Learners’ response follows the teacher’s initiation and the teacher’s evaluation of learners’ response. The initiation from the teacher serves as the input of the target language, students’ performance in the language is the output of language and the feedback from the teacher enhances learners’ acquisition of language.

2.3 Teacher questioning in the second language classroom

In the classroom, teacher questioning is an important means of interaction. Corey (1940, in Hargie, et al: 1981: 66) pointed out in her research that, on average, the teacher asked a question once every 72 second. Research supports the importance of teacher questioning and its effect on language learning. For instance, in a study by Rothkopf (1972, in Hargie, 1978), the result showed that the oral questions by the teacher impact effectively on learners’ learning.

2.3.1 Types of teacher questions

According to Hargie’s (1981), questions can be classified into the recall/process questions and the closed/open questions.

(1) Recall and process questions

Recall questions largely focus on the retrieval of knowledge, i.e. people’s recollection of previous experience or knowledge. The answer to a recall question is particular information that has been learnt by the respondent, no matter it is correct or not.

E.g. Where is your school?

How old are you?

Recall question are mainly to check whether learners mastered the previous lessons. Learners do not need to apply their high cognitive capacity.

Process questions are employed when the respondent has to go through more complex mental process. Questions like “What do you think would have happened to him if he were not rescued by the police?”, “What can be inferred from this short story?”, etc. are all process questions.

In process questioning, the teacher can ask learners to make a decision, to voice out their opinions as well as to justify or evaluate any given statement or situation. Therefore, learners exploit their reasoning skills, judging skills as well as higher mental competence and more time on questions may be required.

(2) Closed/open questions

Closed and open questions are the most frequent way and are easily identified. Closed questions lead to very narrow answers, or answers in a few words or a short sentence. They are for encouraging learners to find out the facts, or to present their knowledge. Closed questions can be subdivided into three types:

a. Selection questions

² The invariability refers to “Embedded in these interactional sequences are options, usually signaled by the teacher, for alternating the IRF pattern” (Johnson, 2002: 21).

Such question indicates that there are two or more alternative answers and the respondent has to “select” the most appropriate answer from given ones.

E.g.: Which color do you prefer, red or yellow?

b. YES/NO questions

The respondent can just give a positive or negative answer to the YES/NO question, for example, “Do you come from America?”

c. Identification questions

Identification questions yield answers of “the recall of information, the identification of present materials or future event” (Hargie, 1981: 73). For instance, “What time does the class begins in the morning?”

Open questions are for the respondent to provide all possible answers to the questions. The teacher can ask more open questions in order to trigger more language output and provide more opportunities of interactions at advanced level of thinking. An example may be as follows: “What are you going to do this afternoon?”

(3) Procedural question

Procedural questions used as part of routine classroom teacher language, for instance, while giving instruction. They are for “teacher-students cooperation” and may not require students to produce any language, for example, “Do you want to open to Page 11?” or “Let’s read these words together, shall we?”

On the whole, most of teacher questions are recall/closed questions rather than process/open questions. Gall (1970) reported that approximately 60% of teacher questions require learners to recall facts; about 20% require students to think and probably about 20% are procedural. In this essay, recall/process and closed/open questions are the focal points. Procedural questions will not be discussed.

2.3.2 Purpose of teacher questions

Teacher questioning in the second language learning context serves several purposes. In this essay, the following purposes of teacher questioning will be studied (Ur, 2000: 229):

- (1) To let learners present information like facts, ideas and opinions.
- (2) To make examinations about learners “understanding, knowledge or skills”.
- (3) To engage learners actively in participating in their learning.
- (4) “To stimulate thinking (logical, reflective or imaginative); to probe more deeply into issues.”
- (5) “To get learners to review and practice previously learnt materials.”

The purpose of teacher questioning determines types of teacher questions in the classroom. Closed questions or recall questions could let learners present information like facts, ideas and opinions as well as to have a review about previously learnt knowledge. Open or process questions are for checking students’ understanding of knowledge or skills. They can also encourage learners to participate actively in their learning. Process questions on the other hand serve the purpose of stimulating thinking (logical, reflective or imaginative). Obviously, process and open questions must be advocated and asked more frequently in the classroom for they stimulate students’ thinking and motivate students to deal with certain matter at a deeper level rather than at a surface level. The teacher must apply all the types of questions skillfully in the classroom.

Effective teacher questioning depends on how the teacher engages learners mostly in their oral presentation of the target language and how the teacher can ask questions at the proper time to involve learners to learn. The availability of questions should also be considered. Availability refers to whether or not “most of the members of the class try to answer it?” Or is the question reserved only for “the more advanced, confident, knowledgeable?” (ibid: 230)

Availability can be judged by whether the responses to the teacher's questions are widely distributed across the whole class or they are concentrated within individual students. In the two samples³, the answers by the whole class to the teacher's questions are marked with < c ss>, while the answers from the individual student are marked with < c s>.

3. A Study of Teacher Questions in Two Chinese Junior English Classes

Two samples of junior English learning lessons are taken as the subjects of investigation. They are transcripts taken from the Middle School English Education Corpus (2000). Each lesson is 40 minutes long. One of the sample lessons is a student teacher's questions during teaching practice. Another sample is from an experienced teacher's questions in a national English teaching competition in China in the year 1997. They both taught Junior Three lessons. The textbooks are Junior English for China, Book 3. The student teacher taught Lesson 13 about the past continuous tense, while the experienced teacher taught Lesson 95, a reading text about Australia.

Teacher questions (recall, process, closed and open questions) and the purpose of teacher questioning will be analyzed to find out:

- (1) How are the four types of teacher questions distributed in each of the English language class?
- (2) What are the differences between the teacher questions in the two samples?
- (3) Are teacher questions related with students' language output in the language learning process?

3.1 The analysis of teacher questions

The numbers of the four types of teacher questions are examined. The questions are related to the context, i.e. the teacher/students' talk before the questions are set as well as students' answers to the questions. A calculation of the distribution of different questions in total number of teacher questions without counting the procedural questions in each sample is made. The total numbers of recall/process and closed/open questions by the student teacher are 103 and 53 respectively in the experienced teacher's case. Table 1 reveals the numbers of the four kinds of questions and the data regarding the distributions of different kinds of questions in the student teacher's lesson. Table 2 describes that in the experienced teacher's case.

Table 1 Student teacher questioning

	Classification of questions			
	R	P	C	O
Total number of different kinds of questions	5	4	80	14
Distributions of different questions (N= 103)	4.85%	3.88%	77.67%	13.59%

Table 2 Experienced teacher questioning

	Classification of questions			
	R	P	C	O
Total number of different kinds of questions	0	6	33	14
Distributions of different questions (N=53)	0	11.32%	62.26%	26.42%

※ **R**= Recall questions **P**=Process questions
C=Closed questions **O**=Open questions

Apparently, most of the questions asked by the two teachers are closed questions. Among the questions the student teacher asked, there are altogether 81 closed questions, which occupies about 77.67% of the questions

³ The detailed study and interpretation of this will be demonstrated in the next section of the essay.

investigated. For the experienced teacher, the number of closed questions is 33, and it takes up approximately 62.26% of the questions asked. This seems to indicate that the two teachers always asked the most common type of question, i.e. they did not try to involve students in higher levels of language learning. It conforms to the research by Bryce B. Hudgins (1977, in Chuska, 1995: 14), that most of the questions by the teacher are “fact-based and allow little opportunity for higher-level thinking or application”.

In the tables, we can see that open questions by the student teacher are 14 (about 13.59%) in the total number of questions. The number of open questions by the experienced teacher is also 14 (merely 26.42%). In the sample of both the teachers’ lessons, the teachers proposed open questions by setting communicative activities, or by showing some pictures to students and setting tasks such as guessing/voicing out what they see. Some of the open questions may also relate to students’ own situation. For example, in the student teacher’s lesson, while one student was drawing on the blackboard and the rest were watching, the teacher asked “What is LIU Hui-qi trying to draw?” which expected students to predict what would be drawn. In the experienced teacher’s case, open questions are for students to express their own opinions about the issues initiated by the teacher and justifying their answers on certain matters. In the lesson, the teacher asked “Why do you like Beijing people” which requires students to propose their own opinions about Beijing people.

As to recall questions, there are 5 in the student teacher’ case, about 4.85%; and there are none in the experienced teacher’s case. In the student teacher’s lesson, the recall questions are simply for students to show their memorized knowledge or for reviewing the knowledge they have learnt.

For example:

<c t>⁴ Do you still remember what we’ve learnt in lesson 3?

This is a question for reviewing.

Or:

<c t> Can you tell the basic form of the past continuous tense?

It is to check students’ memorised knowledge especially grammatical knowledge.

The least asked questions are process questions. There are 4 in the student teacher’s case (about 3.88%) and 6 in the experienced teacher’s case, which is roughly 11.32%. The reason for this may be that in SLL, the English teachers did not give students more scope in the activities counting on thought-provoking process. This probably has something to do with the specific learning and teaching practice in China. In most Chinese English education classes, English learning is grammar-centered (HU, 2002: 29). One of the factors may be the cultural factor, that is, teachers are regarded as giver of knowledge and learners only knowledge receivers (ibid: 36). The English language teacher could not conduct too many communicative activities, as they had to finish the teaching task or fulfill the set aims of English language teaching by the school.

3.2 A comparison between teacher questions in the two samples

From the data in the tables, we can see that the total number of questions asked by the student teacher is far more than that of the experienced teacher. Since the time for each lesson was only 40 minutes, we can conclude that the student teacher spent most of the time in class asking questions. A thorough study into the questions asked by the student teacher showed that there are a lot of repeated questions. The reason may be either the student teacher was not confident enough while questioning or students could not understand the teacher’s questions. In

⁴ In samples in the corpus, <c t> refers to what teacher’ talk, <c s>refers to individual student’s talk and <c ss>to the whole class. In this essay, when presenting the examples from the samples, the author will use the same way of marking.

the experienced teacher's case, the repetition of the questions was less frequent.

In addition, the number of questions asked is not always consistent with the level of thinking of the respondent in their answers. Research shows that it is no use for the teacher to ask too many questions, on the account that most of the questions will only result in asking for factual knowledge or just "satisfying the teacher" (Chuska, 1995: 18). In the student teacher's lesson, the teacher spent a lot of time on questioning students, but most of the questions only required students to use the lower level of thinking. For instance, there are lots questions like "What did I use?" "Did I use a pen" etc. in the student teacher's class when students could immediately tell that the teacher was using a piece of chalk. It is a waste of time to ask so many questions without any communicative value or without generating the expected students' language output in the class. Conversely, the experienced teacher asked fewer questions and most of the questions were asked at the proper moment when it is essential for the teacher to interact with students. For example, near the end of the lesson, the teacher allowed students to review the lesson and discuss the questions by applying the new language points they learnt, for example, "Can you tell us your true feeling and your story?"

Obviously, the proportion of the process questions in the student teacher's case is lower than that of the experienced teacher. Moreover, the experienced teacher tended to ask more open questions than the student teacher. The experienced teacher was more aware of the importance of getting students to participate in more communicative activities, thus enabling students to use the target language more in the classroom. For example, at the beginning of the lesson by the experienced teacher, the questions were as follows:

<c t> ...I am a teacher from Beijing. Do you know Beijing?

<c ss> Yes.

<c t> Yes. OK. Would you tell me something about Beijing?

....

The teacher just generated open questions for students to discuss what they knew about Beijing from a very simple closed question: "Do you know Beijing?"

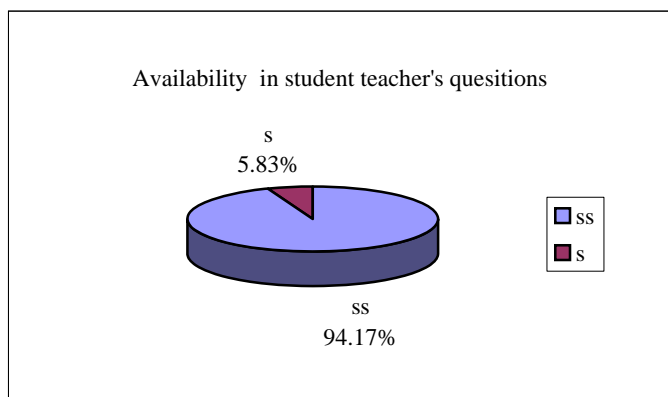
Finally, the availability of the teacher questions is examined. The recall/process and closed/open questions are included. Table 3 illustrates the availability of questions in both teachers' cases by showing the numbers of questions to the whole class and the individual student. Pie chart 1 exhibits the availability in the student teacher's case and pie chart 2 manifests that in the experienced teacher's situation.

In the student teacher's lesson, 97 questions (about 94.17%) are for the whole class, while in the experienced teacher's class, only 20 questions (roughly 37.74%) are for the whole class. Apparently, the student teacher got the whole class in answering the questions more than the experienced teacher did, i.e. she interacted with the whole class more. Although the student teacher had the whole class participating, he/she may easily miss the chance to observe individual student's oral output of the language. The experienced teacher who participated in the competition did not interact with the whole class much but she interacted with the individual student more than the student teacher did. She asked 33 questions to individual student, approximately 62.26% of the questions she asked. She did get the whole class to participate and individual student to participate through her questions.

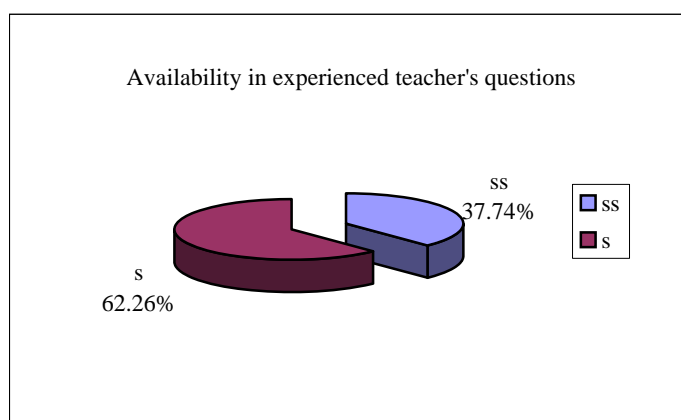
Table 3 Availability in teacher questions

	Student teacher	Experienced teacher
SS	97	20
S	6	33

Pie chart 1



Pie chart 2



SS = the whole class S= individual student

4. Conclusion

In both the teachers' lessons, a lot of time has been spent on closed questions when it may be better to spend on open or process questions. Since teacher questioning is the main way of classroom interaction, the teacher should make full use of it in order to improve classroom dynamics and engage students in language learning. The study of the availability of teacher questions once more stresses the importance in maintaining the classroom interactions effectively in the form of teacher questions. By alternating questions to the whole class and individual student, the teacher can involve all the students in language learning.

5. Implication for Language Teaching

The study provides some implication for future teacher questioning. First, more effective teacher questioning should be introduced according to specific language learning environment. The questions asked must base on the cognitive level of the learners, the purpose of the lessons, the learning materials used and so on. The teacher may pre-design the questions that will be asked in the class, to make the questions more relevant and meaningful, at the same time provide more chances for both the teacher and students to communicate (ibid: 27). Questions that can better suit learners' cognitive level should be encouraged. Those that require the higher level of thinking should

also be welcomed so that learners can be exposed to more language input. Second, in SLL context, the teacher should try to get students more engaged in the second language learning through effective teacher questioning. Since the intended objects are to allow students to interact more frequently, questions should aim at providing more opportunities and motivation for students to interact in the target language. Teachers should try to improve their questioning skills through classroom practice and by observing students' reactions to the questions. Meanwhile, teacher must adjust the student's language output by giving comments on their answers and by helping them to produce answers of high quality. The four types of questions should be employed more properly and according to students' response, especially where students may display their high-level of thinking.

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