

FACILITATIVE OR FAVORABLE CONDITIONS FOR ADULT LEARNERS
TO ACQUIRE ORAL PROFICIENCY IN ENGLISH

by

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To Martin, Jennifer, and Julia

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ABBREVIATIONS

ALM	Audiolingual method
ANOVA	Analysis of Variance
CC	clause count
CCT	creative construction theories
CI	comprehensible input
CLL	Communicative language learning
CLT	Communicative language teaching
EFL	English as a foreign language
ESL	English as a second language
FTT	Functional-Typological Theory
L1	first language
L2	second language
MANOVA	Multivariate Analysis of Variance
NNSs	non-native speakers
NSs	native speakers
SLA	second language acquisition
SP	spontaneous production
TT	teacher talk
WC	word count
WC-SP	mean word count of spontaneous production
WT	wait time

ABSTRACT

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Social interaction in the language classroom has been said to contribute to the acquisition of oral proficiency in a target language by presumably facilitating comprehension and learner production through negotiation of meaning. Since a great portion of interaction is initiated by teacher questions, numerous studies on questions have been conducted. The majority of these studies, however, fail to provide adequate explanations for the conditions or environments which result in successful or unsuccessful elicitation.

The study investigated the relationship between input, interaction and learner production with a focus on internal and external factors to teacher questions. Factors such as form, function, topic of teacher questions, and wait time (WT) in post-solicitation were considered as internal factors. The external factors were the gender of an instructor, the setting

of instruction, and the context of learning. A total of 36 hours of recorded classroom interaction with 14 subjects in Texas and in Japan were used for analysis.

The findings of this study indicate that referential questions, personal topics, and longer WT result in longer learner production; whereas display questions, impersonal topics, and shorter WT result in shorter learner production. There are also significant interaction effects between function, topic, and WT. Other findings include the following: (1) there are significant differences between genders in the success rate of elicitation and mean word count of learner production, (2) the two genders differed significantly in the use of questions quantitatively and qualitatively and in the use of WT, and (3) the mean WC of spontaneous production is significantly greater than the mean WC of responses elicited by teacher questions.

All significant findings were used to train teachers for an experimental study. The results demonstrated that the findings coupled with their incorporation by teachers who were carefully trained to implement them in the classroom improved classroom interaction. This study offers practical application for language pedagogy. Furthermore, it suggests that teacher questions be re-evaluated in light of external factors to discover the most successful social interaction in the language classroom.

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CHAPTER 1

INTRODUCTION

There has been a paradigm shift over the last few decades in applied linguistics that has given rise to communicative approaches in second language teaching and learning. The underlying assumption of communicative language teaching (CLT) is that the amount of social interaction in the classroom (as in the natural language learning environment) influences language acquisition. Here, social interaction does not refer to interaction at social occasions, such as parties and other the social gatherings, although these occasions often create social interaction among the participants; in this study social interaction refers to the verbal exchange between interlocutors which represents genuine communication regardless of physical environment.

A growing interest has emerged in creating a communicative language learning environment. Numerous materials and textbooks claim to promote communicative language learning (CLL). A typical CLL textbook often includes different types of tasks that supposedly facilitate interaction among learners (e.g., information gap activities, problem solving activities, etc.). Tasks are activities or actions which are carried out as the result of the comprehension of given input. The outcome

of comprehension may be carried out verbally or non-verbally. In other words, tasks may or may not involve oral production. Tasks are more purpose or goal oriented than exercises which may consist of mechanical, meaningless repetitions. The use of a variety of tasks in the language classroom often contributes to more communicative interaction among language learners. Another effort to create CLT is found in numerous teaching materials and textbooks. It is rare to find a CLT textbook that does not have large pictures and illustrations for pre-listening tasks. The intended effect of these visuals is to help learners utilize their background knowledge and life experiences when processing language input, which should, in turn, facilitate learner production.

Replacing a structural based curriculum or syllabus with authentic text and materials is another common practice among CLT practitioners. Authentic materials are written for and by native speakers of a target language and reflect the real world outside the classroom. Cathcart (1989) claims that despite the adoption of communicative approaches to language learning, many language models still contain unnatural and inappropriate dialogue and text. She suggests that materials need to be re-evaluated with a realistic view of the learner's needs and sociolinguistic variables. She states:

There is considerable evidence in studies of variation in second language acquisition that language use varies across tasks and topics and among interlocutors of

different status. In doctor-patient discourse, for example, it may be that there are basic differences in conversational control between female and male doctors interacting with female patients; it may also be that different interactional structures occur when patients have seen a doctor before or when patient and doctor are perceived to be social equals. (Cathcart 1989, 120)

Any innovative curriculum intended to promote interaction within the classroom often exposes language learners to authentic activities and to the different functional uses of language. Authentic activity is defined as the activity which is normally performed by native speakers in the real world as a result of comprehension or production of language in communication. For example, buying a hamburger at a fast food restaurant requires verbal production. The function of language is, then, ordering a hamburger. When the cashier announces the total cost of the food, the customer must pay the cashier the appropriate sum as a result of comprehending the cashier's speech or reading the amount on the register. The entire process of buying and paying is an authentic activity which is found everywhere in the United States. It has been proposed that authentic activity be introduced into the language classroom in order to promote CLT.

Unfortunately, in spite of these efforts, many applied linguists are still concerned that genuine interaction, an emblem of CLT, in the language classroom has been rarely observed in so-called CLT programs. In order to investigate what is actually taking place in the language classroom, Nunan

(1987) conducted research in five communicative-oriented ESL classrooms and reported that there was a discrepancy between what the theories in second language acquisition (SLA) said and what actually went on in the classroom. He observed that most of the interaction found in the study consisted of artificial communicative exchanges comprised of teacher initiation (questions) followed by learner response with monosyllables and teacher follow-ups.

This discrepancy between theory and practice may be the result of several factors. Richards (1996) suggests that the gap between theoretical orientation and the actual practice of CLT may be attributed to the teachers' personal principles or philosophy of language teaching. "Personal teaching principles" are often influenced by the teacher's cultural background, which is related to belief systems, personal experience, and training. This suggestion was made based on his qualitative research on the nature and role of language teaching principles. Richard uses the term 'teacher maxims' for these principles. He states:

Teachers' maxims appear to reflect cultural factors, belief systems, experience, and training, and the understanding of which maxims teachers give priority to and how they influence teachers' practices is an important goal in teacher development. (Richards 1996, 281)

It is unarguable that these 'maxims' influence and guide instructional decisions and oftentimes constrain pedagogy. The maxims or principles may be further divided into a broad

perspective and narrow perspective. The first two maxims that Richards mentions in the above citation are cultural factors and belief systems. They are usually established over the years of a teacher's life experiences.

The task of understanding their own maxims and then perhaps being challenged to go beyond their cultural and belief boundaries is not an easy one for teachers. It may take, if possible at all, many months or even years to undo their culturally biased maxims. The alternative is to approach this dilemma from a narrow perspective, which may be called the 'bottom-up' approach. Experiencing or receiving training to promote CLT may not be as difficult as changing culturally biased belief systems which all teachers tend to have more or less. For example, teachers in Japanese culture may develop tightly-controlled teacher-led activities due to the culturally perceived role of the teacher.

This researcher believes that in order to train language teachers to become effective CLT oriented teachers, the best place to start is within the language classroom. Good training starts when teachers record and evaluate their own their classroom interaction (Allwright 1983, Nunan 1990). Any noteworthy observation should be analyzed and applied to actual teaching. By doing this, teachers can improve their teaching skills. The process of learning should be cyclic; in other words, the best teachers never cease to evaluate their own

teaching. This bottom-up approach may be a solution for improvement in CLT. At the same time, teachers need to promote cultural awareness and personal convictions on methodologies.

In seeking the implementation of effective CLT, some researchers have begun a careful examination of classroom interaction. When the significant role of the teacher in interaction is focused on, researchers have taken special note of the types of questions teachers use. It has been claimed that questions facilitate classroom interaction, and, in fact, language teachers use questions predominantly to raise a new topic, negotiate meaning, and, consequently, initiate interaction (Thompson 1997, Nunan 1991, Brock 1986). Questions and the negotiations of meaning that follow presumably make input comprehensible and provide opportunities to use the target language for communicative purposes.

Thus, in order to promote genuine communicative exchange, a number of researchers urge improvement in the use of questions both quantitatively and qualitatively. Nunan (1987) suggests that in classroom interaction, language teachers should utilize more referential questions. Referential questions are called 'genuine' questions because speakers are genuinely interested in the answer and seek information that is unknown to them. Nunan claims that if language teachers introduce materials about which learners have some background

knowledge and ask genuine questions, communicative exchange will take place.

Thompson (1997) also addresses the important role of questions in interaction and emphasizes the need of training teachers to ask questions effectively. He claims that teachers need to know the different types of questions (form, content, and purpose) to facilitate classroom interaction between a teacher and learners. In so claiming, he provides a set of categories of questions for teachers to utilize. Question form has two subcategories: wh- and yes/no questions. Question content has three: outside fact, personal fact, and opinion. Question purpose is divided into display and communicative purpose. The combination of these subcategories is suggested for use in the classroom. He states that "the main purpose of setting up the categories is...to help sensitize trainees to what they are actually doing with their questions, and what else they might be doing." (Thompson 1997, 99) His intention is to encourage language teachers to be aware of the implications of the types of questions they choose.

Long and Sato (1983) report in their study that there was a great gap between the form and the function of teachers' questions in the ESL classroom and those of natives' questions outside the classroom. The ESL teachers in their study used substantially fewer referential questions than display questions, questions to which the interlocutor already knows

the answers. They are used to make learners display knowledge or to reveal their lack of knowledge for pedagogical purposes. Although display questions are sometimes used by some parents who are 'educationally-minded' when addressing young children, it is not common practice to use display questions in the real world.

Display questions are typically used in the classroom (not necessarily in the language classroom) for certain pedagogical purposes. The existence of a large portion of display questions indicates that there is pseudo-communicative interaction in the classroom and not the true communication. The term 'pseudo-communicative' is used here because in real world, it is rare to find display questions among interlocutors. Long and Sato's study reports that genuine communicative use of the target language makes up only a miniscule part of classroom activities despite the trend to promote communicative language teaching methodology.

Based on the report by Long and Sato (1983), Brock (1986) undertook in an experimental design an investigation of the effects of referential questions in an ESL classroom on discourse and learner production. She found that the majority of questions (83 percent) in the control group were display questions, which supported the findings of Long and Sato's study. After having received special instruction to increase referential questions, however, the teachers in the

treatment group not only succeeded in increasing the instances of referential questions significantly but also succeeded in elicitation of longer and more syntactically complex responses than the control group. The learners in both groups responded to display questions with shorter and simpler statements. She concludes that the use of referential questions facilitates interaction and increases the quantity of learner production.

In recent years, the focus of interaction has shifted from interaction between a teacher (a native speaker or a competent speaker of a target language) and learners (non-native speakers) to interaction among learners. Because of the fact that interaction among learners normally takes place in group work, more researchers have started paying attention to the nature and the effect of group work on learner production. The earliest study that drew researchers' attention was the study conducted by Long and colleagues (Long et al. 1976).

Even though the sample size of interaction in teacher-led activity and group work was quite small (two 40-minute lessons with four learners), the findings of this study has been of great interest. There was a significantly greater amount of negotiation of meaning in group work than in teacher-led activity. Moreover, learners produced more utterances with peer learners than with instructors. The variety of utterances by learners was also greater in group work than in teacher-led activity.

When Pica and Doughty (1986) replicated Long's study in an ESL context, they found that group work not only resulted in significantly more production than in teacher-fronted activities, but also in more modified interaction.

Lightbown and Spada define modified interaction as "adapted conversation patterns which native speakers use in addressing language learners so that the learner will be able to understand." (Lightbown and Spada 1993, 123) Modified interaction is prompted by conversational adjustments, oftentimes with the frequent use of confirmation check, clarification check, and repetition and/or semantic repetition for the purpose of negotiation of meaning in conversation. It is plausible that when a teacher moves from the front stage and releases control over the floor, learners converse with each other in order to complete a task among themselves.

Interaction is particularly important among adult language learners to acquire oral proficiency in English. They usually do not have the luxury of a 'silent period' which has been noted and claimed to play an important role in SLA by some researchers (Krashen 1981). If adult learners are learning in an ESL context, they are in need of using communicative skills to function in the target language in their daily life. Even in an EFL context, the desire of sharing experience and knowledge in a target language oftentimes overwhelms the adult learner's actual speaking ability. Adult

learners who are very enthusiastic about sharing their experiences often struggle over the choice of words and structures to communicate with native speakers of English and get frustrated about not being able to find appropriate words.

While focusing on adult learners' needs, Martin and Laurie (1993) investigated what the primary goals of language learning were among the learners of French as a foreign language. One hundred percent of the intermediate-level students chose 'Improved speaking skills' in a target language as the most important goal. In response to the question of what contributes most to speaking skill, they chose participation in class discussions as the number one factor (91%) out of 14 activities, followed by the following activities: preparing for oral tests and exams, making presentations, speaking with the teacher in and out of class, and learning new vocabulary. The contribution of listening to teacher input was only 38% (9th on the list). When asked what contributed to listening skills, they listed listening to the teacher speak French as the most important factor (89%).

Of interest is that the adult learners listed participating in class discussion as the second most important contributive factor to the acquisition of listening skill (82%), followed by speaking with the teacher in and out of class, preparing for oral tests and exams. It is clear that the adult learners were convinced that actual participation in

discussion (i.e., verbal interaction) was very important for both listening and speaking skills. It may well be said that the adult learners themselves were convinced that verbal interaction contributed most to oral proficiency.

Statement of Problem

Given the importance of verbal interaction for oral proficiency in the language classroom, it is not surprising that there is an abundance of studies that focus on what facilitates interaction and how to increase the quality and quantity of interaction. However, the majority of studies are not empirically supported or if they are, they tend to be fragmented or inadequate with respect to the scope of research designs.

For example, though intuitively appealing and with significant implication, Thompson's suggestion that teachers need to utilize different types of questions is not based on any empirical study (Thompson 1997). Moreover, the kinds of questions that are most effective in eliciting learner production are still unknown. Although he provides a list of suggestions on questions, some of the questions suggested are, as he admits in his study, very difficult to construct.

The claim made by Brock (1986) is a plausible one: referential questions facilitate interaction and increase the

quantity of production by learners. It is arguable, however, that learner production may be affected not only by the function of questions (whether referential or display), but also by numerous other variables. Some examples of these variables include wait time (WT) in post-solicitation, topic of a question, and classroom power dynamics that may be affected by the context of teaching and the age and the gender of an instructor.

WT is defined as the period between a teacher's solicitation of a question, request, or gesture and the learners' response. In two studies of content classrooms, Rowe (1974, 1986) studied WT in post-solicitation and post-response for children over a twenty-year period. Post-solicitation WT is a period of silence after an instructor asks a question and before the learner responds to it, whereas post-response WT is a silent period after a response was made. The study reports that students are likely to fail to respond to questions under the usual WT (average of one second), and if they do respond, responses tend to consist of short phrases.

However, where there is extended WT (a minimum of 2.8 seconds), the length of the students' response increased by more than 300 percent, student-student interaction increased, and the number of questions asked by students increased significantly. Rowe concludes that teacher WT influences the development of language and logic.

Future research on the interpretation of a question and its response requires (but is not limited to) understanding of the power dynamics between interlocutors, familiarity of a topic, and the pragmatics of questions. Therefore, it is necessary to include these other variables in the investigation of the relationship between teacher questions and learner production before drawing any possible relationship between the two. When focusing on the learners' role in interaction, it is important to investigate when and how much language they produce and under what conditions.

Recent research that focused on small group work has been concerned about the possibility of more learner errors in group work and of learning errors from other learners. When Pica and Doughty (1985) investigated group work interaction in three ESL classrooms, although input by both teachers and learners was more grammatical in a teacher-fronted class than in group activities, they discovered that the learners in this study produced equally ungrammatical sentences both in teacher-fronted and in group activities.

Porter (1986) addresses the question of how learner input is different from native speaker input during unmonitored interaction. Though the learners in the study produced more ungrammatical and sociolinguistically inappropriate input than the native speakers, the author claims that the positive effect of learners communicating with other learners overrides

any negative effects because the learners produced more words and used more interaction features such as comprehension and clarification check with their peers than with native speakers.

Although a number of claims have been made to support group work in the classroom (Long et al. 1976, Long and Porter 1985, Porter 1986), there has been a growing concern among researchers about the possible long-term effect of learner input on learner production and oral proficiency. Some researchers suspect a possible fossilization of errors in the target language induced from degenerate or ungrammatical input from other learners (Lightbown and Spada 1992). Other researchers are hesitant to introduce completely unmonitored group work due to the fact that different types of group work result in different interactional patterns. Depending on the grouping of learners who have different proficiencies and on the kind of tasks involved, learner interaction will be quite different (Pica and Doughty 1985, Yule and Macdonald 1990).

Research by Bruton and Samuda (1980), however, seems to remove some of the concerns. They report that the adult learners in their study were able to correct each other successfully and to employ different error treatment strategies (i.e., explicit corrections and repair questions). They also report that the learners did not pick up many errors

from each other. Doughty and Pica (1985) focused on the type of group work and reported that two-way tasks resulted in more interaction than one-way tasks and that more talk was generated in teacher-led tasks than in the group-work tasks. However, they also report that the more than 50% of the talk in teacher-led tasks was produced by the teachers. They concluded that group work with two-way tasks was more effective than group work with one-way tasks in both teacher-led and group-work activities. These findings eliminate some of the concerns about group work and provide a rationale for introducing group work in the classroom.

The concern or delimitation of the three studies cited here to support group work is that they were conducted in a laboratory setting for the purpose of research on a relatively small scale. The question of whether or not learners are really linguistically ready to take on task-based group work without assistance from a native speaker can be raised. The researcher argues that group work will be regarded as effective only when there is evidence that learners, even though linguistically ready, are not progressing in language development due to the constraints developing out of teacher-centered activities.

Another area in which there is inadequate research is the study of wait time (WT). Shrum (1985) replicated Rowe's study in two second language classrooms (French and Spanish)

and reports that the average post-solicitation WT was 1.7 seconds in the target language and 2.33 seconds in the native language (English). The average WT of 1.9 seconds is longer than the average WT in Rowe's study but "still too short to allow for thoughtful cognitive processing." (Shrum 1985, 311) Shrum did not specifically focus on the relationship between learner production and WT of post-solicitation.

Nunan cites Long and Crookes's study (1986) and reports that increased WT did not result in greater mastery of content by ESL students (Nunan 1991). Neither of the two studies, however, report if there is a direct correlation between WT and learner production. The two studies only agree that the average WT in the language classroom is very minimal and that WT needs to be extended for better interaction.

The question of how much WT influences the quality and quantity of the learner production needs investigation. This researcher asserts that the relation between WT and learner production is a complex one and needs to be investigated in relation to the types of questions solicited (form, function, topic). In addition to this, the researcher asserts that some external factors that may influence classroom dynamics such as the gender of the instructor, the setting, and the context of learning need consideration.

Purpose of the Study

The purpose of this study is to investigate the facilitative or favorable conditions for adult learners to acquire oral proficiency in English. To carry out this purpose, the researcher first attempted to establish the significance of the role of social interaction for oral proficiency by reviewing current research. The researcher then investigated the following: (1) the degree of interaction that was actually taking place in the classrooms specifically dedicated to improving oral proficiency; (2) the amount of production that was actually produced by learners through interaction with an instructor in teacher-controlled activities; (3) any interaction effect between internal factors (i.e., form, function, topic, and WF in post-solicitation) and external factors (i.e., gender of an instructor, setting, context of learning) that may affect responses to teacher questions; (4) the effect of teacher training in improving interaction; finally, this study also investigated, and (5) whether learners were linguistically capable of being independent of the teacher to participate in group work activity. The study of interaction was limited to 'phonological observables'; non-verbal interaction was not considered.

Research Questions

In order to carry out the stated purposes of this study, the following questions were considered:

1. Is there any significant interaction among setting (EFL/ESL), context (academic/non-academic), gender of an instructor, and the amount of teacher talk (TT)?
2. Is there an overall difference in the frequency of questions and in the type of questions among the three moderator variables (gender, setting, and context)?
3. Is there any correlation between the success rate of elicitation and the different types of questions? Is there any correlation between the success rate of elicitation and gender, setting, and context?
4. Does the length of wait time in post-solicitation affect the length and the complexity of learner responses?
5. Do learners produce longer and more complicated utterances with wh-questions than yes/no questions?
6. Do referential questions result in longer and more complicated utterances than display questions?
7. Do personal topics and topics relevant to the learners result in longer and more complex utterances than impersonal topics?
8. Are there any significant interactive effects of form, function, topic, and WT on learner production?

9. Do any of the moderator variables have an interactive effect with form, function, topic and WT on learner production?
10. Are learners, in general, linguistically capable of doing group work activities independently of a native speaker?
11. Does teacher training on the effective use of questions make a difference on learner production?

Significance of the Study

The first significant factor of this study is to attempt to analyze the degree of teacher talk with the consideration of various instructional settings (ESL or EFL), instructional goals (academic or non-academic), and the instructor's gender. Prospective ESL/EFL teachers are often surprised by the amount of their teacher talk seen in transcription of their classroom interaction. Teacher talk is of great importance particularly in EFL settings in which the only source of authentic speech is the teacher who is a native speaker or near-native speaker of the target language. However, it is notable that an excessive amount of teacher talk deprives learners of the opportunity for participation in discourse.

Among the various constituents of teacher talk, teacher questions play a crucial role in interaction because the researcher has observed that non-natives rarely respond to the statements made by teachers. Though the importance of teacher

talk has been recognized, some studies report the lack of teacher questions within teacher talk. For instance, Chaudron (1988) reports that there are more declaratives and statements than questions in typical teacher talk. Moreover, even in situations where questions are asked, the quality of interaction they elicit is questionable. Good and Brophy (1987) gives a sobering report:

Unfortunately, in too many classrooms, discussions are parrot-like sessions with teachers asking a question, receiving a student response, asking a question of a new student and so forth. (Good and Brophy 1987, 11)

The second significant focus of this study is to investigate not only the quantity of teacher questions but also the nature of those questions with respect to several possible independent variables and their interaction (i.e., the types of questions that resulted in "parrot-like" discussion and factors that contributed to longer and more complex production).

Thus, the researcher examined interaction both quantitatively and qualitatively. The results of this study are both informative and practical in that they can be utilized in teacher education and practical training.

The final significant focus of this study lies in the investigation of learner readiness in group-work activity by examining the learners' spontaneous speech samples.

The results of the comparison of the two productions (i.e., spontaneous speech and response to teacher question) will also be utilized in planning curriculum and syllabus design.

Limitations

This study originated and ended within formal instructional settings. Formal instruction does not imply the manner in which teachers present materials or a syllabus to the classroom. Any teaching is considered formal instruction as long as a language classroom is offered to improve language proficiency whether it be on a campus or in the local community. In this context, teachers normally have a certain set agenda in their approach to teaching.

By contrast, informal learning is naturalistic learning. Learners acquire or 'pick up' the target language from the 'street' and the society in which they live. There is no systematic learning opportunity with help from a native speaker. The assumption in this study is that classroom instruction provides advantages for learners, particularly for adult learners over a naturalistic setting. Therefore, the result of this study may not be applicable to naturalistic learning.

Furthermore, since the data for EFL were collected from a limited area in Japan (Shizuoka city and Osaka city) with a

small number of subjects, the results of this study may not be generalizable throughout the country of Japan or beyond. The data gathered from the ESL classes suffer a similar limitation since, they were gathered within a limited area of North Texas: Dallas, Arlington, and Fort Worth.

The non-native speakers (NNSs) in this study were claimed to be all high-beginning to low-intermediate students according to the evaluations of the instructors. This researcher did not have any involvement in determining the degree of proficiency levels except for two classes, in which she was involved in planning the curriculum. The conclusions that were drawn based on the production of these learners (particularly on spontaneous production (SP)) may be somewhat different from the production of students at higher proficiency levels. The researcher, thus, acknowledges several limitations of this study regarding data collection.

CHAPTER 2

REVIEW OF LITERATURE

The Models of Second Language Acquisition and Language Pedagogy

This discussion centers around the models of second language acquisition (SLA) whose applications are found in language pedagogy. Therefore, the SLA models such as the Sociocultural model (Brown 1988) and the Acculturation model (Schumann 1978) will not be discussed. Neither are the SLA models that are based on student attitude and motivation considered in this discussion.

The psycholinguistic model, or the behavioristic model of SLA (Audiolingual method), claims that language learning takes place through the underlying process of habit formation, which is the result of one's accumulated experience. Second language acquisition is a process by which learners acquire a new set of linguistic habits by positive reinforcement through repetition and imitation. Lado (1964) claims:

New pronunciation habits must be learned to a high degree of automaticity. Some problems must be understood, practiced, and practiced again and again with attention shifting to the message. In some cases as many as a hundred separate practice periods may be required to master the problem. (Lado 1964, 76)

Due to its emphasis on the accuracy of learner production from the beginning of learning, this model's typical language

pedagogy does not allow learners to have genuine social interaction or any interaction without guided or modeled instruction. This is because teachers are concerned with performance errors in free conversation. In this model, 'interaction' refers to rehearsed or memorized verbal exchange based on prescribed and memorized dialog. The behavioristic account for language acquisition was seriously challenged by Chomsky (1959); history has seen the decline of this SLA approach. The decline of the model, however, did not eliminate it from practice in language pedagogy. All of the classes this researcher observed (more than 30 ESL/EFL classrooms) incorporated the Audiolingual method (ALM) or the oral-aural approach in classroom activity to varying degrees.

Lightbown and her colleagues (1987) examined the effect of Audiolingual instruction on SLA, particularly on the inter-language development of children ages eleven to fourteen. The children who received ALM instruction produced certain grammatical morphemes with a high degree of accuracy during the time of instruction indicating that instruction altered the natural order of acquisition. However, the children produced the same morphemes with considerably less accuracy after the instruction period ended.

Lightbown in her study concludes that ALM which emphasizes accuracy in oral production does not lead to the successful acquisition of oral skills. This study was conducted

during the late 1970s in Canada, during the time of the rise of CLT. It is worth noting that ALM-oriented instruction was still very prevalent among language classrooms in Japan as the researcher visited and discovered in the late 1990s.

Nativist theories of SLA, or creative construction theories (CCT), attempt to explain language acquisition by positing an innate biological endowment that makes language learning possible. Biological endowment was originally proposed in the study of first language acquisition. The assumption of CCT is that second language learners have access to that same endowment as first language learners. Consequently, language pedagogy within an SLA theory based on CCT seeks to create or assimilate the first language (L1) acquisition environment.

A major proponent of CCT is Krashen. Krashen (1980) proposes the Input and Affective Filter Hypotheses and claims that comprehensible input (CI) is a condition and also a cause for SLA. In the case of SLA failure, then, Krashen claims that a high "affective filter" is the source of that failure. His further claims can be stated as follows: (1) the current level of ability is only known by a learner himself or herself and the manipulation of structural input by formal instruction is not necessary; (2) acquisition takes place when a learner understands the teacher input which contains structures that are a bit beyond the current level of the learner's language

ability, and (3) input becomes comprehensible when it is simplified and accompanied by contextual and extralinguistic clues.

Here, SLA rests on the assumption that positive evidence (i.e., linguistic input that informs learners about what is possible in a given language) is sufficient input. The rationale is taken again from L1 acquisition. Children normally acquire their L1 without receiving much negative evidence from their parents (except when semantic or logical incorrect). In this model which assimilates L1 acquisition into second language pedagogy, corrective feedback which provides negative evidence is unnecessary.

This, however, imposes a great burden on learners, especially adult learners who do not know which sentences and structures are unacceptable and ungrammatical in the target language. Also, with so much emphasis on comprehensible input, this model discourages verbal interaction which involves learner output, particularly in the initial stages of learning where it interferes with the 'silent period', the period which this model claims to be crucial to SLA.

When this model of SLA is applied pedagogically to language teaching (e.g., Natural Approach and Total Physical Response), verbal interaction is banned from the initial stages of learning, forcing the silent period (ten to twenty hours) on the learners. The only possible or accepted form of

interaction is non-verbal interaction.

White (1987), who is also known as a creative constructionist, raises a number of counter-arguments against Krashen's Input Hypothesis. She agrees that certain aspects of grammar development are internally driven but argues that input alone will not provide enough information about what forms are not acceptable in a target language. She argues that there should be negative evidence presented to learners as well as positive evidence through instruction. Her counter-argument also extends to CI: "the driving factor for grammar change is that the input is incomprehensible, rather than comprehensible." (White 1987, 98)

The importance of CI in language teaching should never be underestimated. However, CI alone is not sufficient cause for SLA. Take, for example, first language acquisition. Babies may be silent simply due to the fact that their physiological development is not advanced enough to allow them to utter words, not because they choose to be silent. It seems that the moment they are physiologically ready, babies start babbling and even attempt to interact with their caretakers using incomprehensible babbling.

The silent period observed among young children learning a target language in a target country is the result, not of external imposition but of their own choice. Long (1990)

asserts that not all children observe a silent period. He cites the following from another researcher:

Gibbons (1985) argues that the evidence for silent periods is in fact very weak, and that there is great individual variation among children as to their duration, where they occur at all. He suggests that they initially signify incomprehension, not intake processing, that prolonged silent periods seen in some children probably indicate psychological withdrawal rather than the acquisition process at work, and that pedagogic recommendations for delayed production are not justified (on the basis of this evidence, at least). (Long 1990, 141)

By contrast adult learners have highly developed cognitive ability and knowledge about the world and are eager to participate in a conversation. To discourage second language learners who possess fully matured vocal apparatus from speaking is a serious hobbling of their wishes to participate. The researcher has often witnessed in classrooms that adult learners voluntarily imitate or move their mouths either with audible or inaudible sound. The researcher also observed that children who were learning English as a foreign language (EFL) behave quite differently from children who were learning English as a second language (ESL). EFL children were, in general, very anxious and eager to speak even with unintelligible pronunciation (The researcher taught EFL children for five years).

Although there are many models labeled 'Interactionist', generally share a common view toward SLA: they agree that

language develops as the result of a complex interplay between innate capacity and environment. Long (1990) states:

Interactionist theories are more powerful, all other things being equal, than either nativist or environmentalist theories, because they invoke both innate and environmental factors to explain language learning. (Long 1990, 264)

One of the most influential models in this theory of SLA is presented by Long (1985). He claims that SLA takes place as a result of the interplay between innate capacity and linguistic environment and that what makes input comprehensible is not necessarily what constitutes input but the way or manner in which input is presented. Long, however, would agree that CI is definitely necessary for SLA. In short, the way in which native speakers (NSs) interact in conversations with non-native speakers makes input comprehensible. In Long's view, negotiation of meaning and conversational adjustment which take place in conversations between NSs and NNSs play a significant role for comprehension of input. The intended outcome of negotiated interaction is comprehensible input. By deduction, then, the interactional model claims that interactional modification promotes SLA.

Long (1985) conducted experimental research on the effect of linguistic adjustment on comprehension using intermediate level ESL students at the University of Hawaii at Manoa as his subjects. The treatment group, which received linguistically adjusted input in the form of a lecturette,

scored significantly higher than the control group, who received non-adjusted input on a comprehension test. When this study was later replicated with a larger group of students, the results were the same. Long (1985) states:

The two studies reported above provide evidence of a causal relationship between linguistic and conversational adjustments of the kinds NSs make to nonnatives under certain conditions and the comprehensibility of what they say to their nonnative listeners. (Long 1985, 388)

Long's claim was further supported by other researchers. Pica, Doughty, and Young (1986, 1987) compared learner comprehension between the modified input and non-modified input accompanied by interaction. In spite of the complexity of the non-modified input, the learners in their study performed significantly higher in comprehension when interactional modification was provided as opposed to those who only received modified input without interactional opportunity. The authors claim that the study provides empirical support for the importance of interactional modification in facilitating comprehension of input.

Although the positive effect of negotiated work on comprehension is generally agreed on by researchers, the relationship between comprehension and acquisition is still controversial. Lightbown and Spada (1993) caution that Long's claim is too simple a deduction. They state that "no research has provided direct evidence for the second claim that comprehensible input causes or explains acquisition."

(Lightbown and Spada 1993, 30) A language classroom which utilizes the Interactional model provides learners with interactive activities not only between a native speaker (NS) and non-native speakers (NNSs) but also among non-native speakers, the latter necessitating group work which presumably offer learners opportunities for the negotiation of meaning.

Functional-Typological Theory (FTT) of SLA shares the same theoretical foundation as the Interactionist model. It claims that language acquisition occurs as the result of interaction between innate capacity (general cognitive ability) and environment. What sets FTT apart from Long's model is the interpretation of the term 'environment'. It claims that SLA occurs as a result of the interplay between innate capacity and social environment. Social environment in this context includes the topic of a discourse, the relationship between the participants, and the mode of pragmatics.

In short, FTT views language as an instrument of social interaction rather than as a system in isolation. According to this model, the speaker's choice of a language structure depends on psycholinguistic and pragmatic principles in conversation. Simply stated, syntactic change is due to the content and social environment of a discourse. When this assumption is applied to SLA, social interaction which reflects the real world outside the classroom is essential to language learning.

Johnson (1983) studied the role of social interaction for SLA. She examined the effect that peer tutoring by native speakers of English had on social interaction and the relation between social interaction and English proficiency. The children in the treatment group initiated dialogue and interacted more than children in the control group. However, the treatment group did not perform any higher than the control group on proficiency post-tests. Johnson concludes that there is no relation between social interaction and communicative competence.

However, Johnson also reports that the treatment group did significantly better on a comprehension test than the control group. If improved comprehension is a result of social interaction, then we may infer that social interaction does in fact promote second language proficiency. The definition of proficiency and the measurement of proficiency are thus in need of re-evaluation. Furthermore, one should not infer any relationship between interaction and the growth of proficiency based on such a short-term treatment (fifteen days) with young children who were, at the time of the study, five to eight years old.

Hatch et al. (1986) provide another model of SLA which is called the Language Experience model. This is very similar to the FTT model; they attribute both external and internal factors to language acquisition. Although this model may be

subcategorized under FTT, there is a noteworthy difference between FTT and this model. It places more emphasis on external factors (i.e., experiences) than on internal factors (i.e., innate mechanisms). The framework of this model was derived from the parallelism between first language learners and second language learners. They claim the following:

To summarize the experience framework, in language acquisition it is assumed that learning is guided via interaction with a "teacher" in an associated set of experiences...the focus of the framework is on external experience rather than the internal system—that is, it stresses the external and assumes the internal rather than vice versa. (Hatch et al. 1986, 20)

Application of this model to language pedagogy is realized by introducing a variety of experiments in the classroom. Through the process of discovery in experiments, learners will acquire the discourse system and the lexical system of a target language. Activities that do not have value for language learning will not be introduced to learners. It is somewhat difficult for the researcher to distinguish this model from the Interactional Model although the authors deny any association with the Interactional model (Hatch et al. 1986).

The last model of SLA theories is the Multidimensional Model. It seems that this model has had a considerable influence on SLA and language pedagogy. It was introduced by Pienemann and Johnston (1987) who were conducting an error analysis of learner production. They claim that there is a

developmental sequence that all learners of typologically different L1 backgrounds will go through and that the learning context, whether instructed or naturalistic learning, does not alter the developmental sequence neither does it skip a particular sequence (Pienemann 1984).

The constraint of the developmental sequence does not derive from any teaching methodology but rather from the internal structure of the target language itself. Because of this constraint, "the teachability of language is constrained by what the learner is ready to acquire." (Pienemann 1989) To test the teachability hypothesis, Pienemann (1989) conducted an experiment and reports the following:

From the above discussion we can see that all the learners, regardless of stage, have mastered the formal learning tasks. However only learners already at stage X+2 have transferred this 'knowledge' to their actual speech production. (Pienemann 1989, 60)

Though the developmental sequence indicates a linear curve, there is another process in SLA: the acquisition of 'variational features'. The discovery of these two processes in SLA, which are independent of each other, caused this model to be called Two-dimensional or Multidimensional.

The individual differences among learners are explained by the acquisition of 'variational features', the acquisition of which is determined by the learners' orientation to favor accuracy or fluency in communication. The examples of variational features which Pienemann studied in the context of

German as a second language (GSL) were copula verbs, articles, and prepositions. The precise category of variational features in English is not clearly given, except that they are said to be grammatical features.

The obvious implication of this model for language pedagogy is of great use provided that all the developmental stages are clearly defined. The Multidimensional Model can be utilized for learner assessment and testing and also for curriculum development. Pienemann and Johnson argue that "the proposed model may also be the basis for establishing a psychologically plausible sequencing of teaching material." (Pienemann and Johnson 1989,132) Another implication is the application of Teachability Hypothesis to language teaching.

The Teachability Hypothesis (i.e., "teach what is teachable"), one of the principles of Multidimensional Model, predicts that "the teachability of an item, and indeed the effects of any external factors, such as natural exposure to a target structure, will always be constrained by its learnability...." (Long 1990, 281). The Teachability Hypothesis may either positively or negatively affect a teacher's strategy to approach teaching depending on the teacher's point of view. The negative effect is an intensified burden on instructors as they attempt to discover the exact developmental levels of learners in a single classroom, which they may not know for sure. The positive effect may be that instructors do not need

to feel responsible for the slow progress of learners. The reason why they do not improve learning is because they are not yet at the appropriate level (internally driven) for acquiring certain structures. Instructors, therefore, may resort to teaching whatever is available or whatever suits teachers. After all, it is almost impossible to determine on which level each learner belongs (in fact it is not known yet how many levels and stages exist in English). It is also extremely difficult to discover what is precisely "teachable" for an individual learner and to sequence the materials, which calls for individual instruction.

These 'impossibilities' are due to the known fact that proficiency levels are extremely difficult to measure, and as a result, in any given classroom of a single proficiency level, one can actually find a broad spectrum of proficiency levels. Pienemann (1989) furthermore argues that an instructor can not teach everything what he/she wants to teach due to the constraints of psycholinguistic readiness. Teaching that is contrary to the natural order of acquisition will be, according to Pienemann, counter-productive to acquisition.

An alternative to this approach is for an instructor to resort to preparing any material because, after all, some of the materials may contain 'variational features' which are independent of psycholinguistic constraints. This also, however, reveals another constraint. The acquisition of

variational features is determined by socio-psychological factors which determine the learner's orientation, attitude, and motivation. Miesel and his colleague claim:

As long as the social factors remain unchanged, we predict that although changes may occur in the speech of the learner during the lessons, the transfer of what has been learned to everyday communication will be extremely difficult. (Miesel, Clashen and Pienemann 1981, 132)

The Multidimensional model may provide powerful implications and applications for language pedagogy only within those language programs that incorporate social integration.

The plethora of literature on the subject of SLA has greatly influenced language teaching pedagogy. For instance, FTT had a major influence on the formation of communicative language teaching (CLT) which emphasizes authenticity of materials, authentic activity, function of language, and social interaction in order for learners to gain communicative competence. The definition of CLT, however, is rather loose and broad. Nunan defines CLT as follows:

They all assume that there is a single set of principles which will determine whether or not learning will take place. Thus they all propose a single set of precepts for teacher and learner classroom behavior, and assert that if these principles are faithfully followed, they will result in learning for all. (Nunan 1991, 3)

Communicative language teaching is, in its essence, an approach or theoretical orientation to language teaching and, therefore, allows a variety of interpretations as well as applications. As it is not uncommon for researchers to observe

teaching practices which do not necessarily agree with a particular method at the level of classroom action, the same is found among acclaimed CLT practitioners. Some practitioners of CLT on a theoretical level still incorporate the aural-oral method at the classroom level. Others use structural-based curriculum that incorporates social interaction.

Yet, it is possible to divide approaches and methods that claim to be CLT into two subgroups. The weak version of CLT often practices explicit grammar instruction, direct error correction, and drill-type activity when it is necessary. The strong version of CLT rejects any sort of grammar instruction, which somewhat resembles comprehension-based approaches such as Total Physical Response (Asher 1972) and the Natural Approach (Krashen and Terrell 1983).

Between these two ends of the spectrum, a great number of teaching approaches have claimed to be CLT. Though the scope of CLT seems to be too broad to define, there is a fundamental agreement among the variations of CLT as stated earlier. To recapitulate, in general, the CLT approach emphasizes interaction, authenticity of material and activities, and the functional use of language.

Input, Interaction and Comprehension

Among the current models of SLA which have influenced pedagogy, Creative Constructionist theories are the only

models which attribute acquisition solely to internal (innate) mechanisms which can be triggered by comprehensible input. However, two different mechanisms seem to exist which promote comprehension and production processes, particularly in regard to oral skill. When given an utterance, listeners usually focus on the meaning of an utterance with the aid of contextual and extralinguistic or paralinguistic clues. If time permits (which is unlikely to happen in a conversation), the structure (form) of an utterance would be the last aspect consulted for comprehension. On the other hand, when producing an utterance, speakers, whether unconsciously (for NSs) or consciously (for most NNSs), choose a certain structure to convey the meaning.

In short, the very things that, according to Krashen (1985), make input comprehensible and then lead to acquisition of a structure (i.e., contextual and extralinguistic clues and simplified speech) actually blur the existence of structures. It seems that comprehension of structure and production of structure take different processes. The question of how it is possible for learners to acquire productive skill is raised. A simple answer would be to provide an opportunity for them to speak through interaction. For clarification, the researcher does not consider rehearsed speaking or reading from already written or prepared texts as genuine speaking practice. The quintessential feature defining 'speaking' here

is unrehearsed, spontaneous speech, and genuine spontaneous speech can be performed only when social interaction takes place.

If both receptive and productive proficiency were included in SLA, Krashen's hypothesis would be insufficient to explain SLA. If the notion of "incomprehensible input" suggested by White (1987) is adopted, then the question of "what would learners do to understand incomprehensible input?" would follow. There seem to be only two options available: (1) ignore incomprehensible input or (2) interact with interlocutors by asking for clarification of the meaning of an utterance. The following articles and book reviews argue for the important role of interaction for language acquisition, specifically for oral skills in the language classroom.

Seliger (1983) argues that the amount of input learners receive is important and considers interaction as the way to increase the amount of input directly to learners. He claims, "what is known definitely is that quantity of input appears to have a definite effect, no matter what the source" (Seliger 1983, 247) In his study, learners who actively sought the opportunity for interaction (according to his definition, they are called High Input Generators) progressed at a faster rate than those who did not. Furthermore, he claims that learners not only increased the amount of input directed to them but also turned input to intake which had a favorable

effect on the rate of second language development. According to his argument, not all input turns into intake. He argues:

On the other hand, directed input requires that the addressee attend to the interlocutor's utterance closely because a response of some kind will be expected. In the case of a practice or drill context, the learner realizes that a correct response, mechanical or meaningful, will be expected. That is, it may be said that the learner, in the case of directed—as opposed to nondirected—input, changes the input into intake. The nomination or specification of a particular addresses personalizes the exchange and requires a higher level of attentiveness on the part of the receiver. (Seliger 1983, 252-3)

In response to Seliger's study, Allwright and Bailey doubt the generalizability of Seliger's results since only six subjects were involved. They also question the validity of his claim saying that it is not possible to conclude whether "learners initiate more interaction because they are more proficient, or they are more proficient because they initiate more interaction." (Allwright and Bailey 1989, 130)

While we do not know as yet whether or not an increased amount of input facilitates acquisition or the interactional opportunity itself contributes to a faster rate of acquisition, it is a truism that interaction normally increases input. Allwright and Bailey (1991) view interactive work at its face value. Negotiated interaction can lead to comprehensible input but at the same time it directly leads to language acquisition. They argue that language acquisition can occur both as a result of increased input by negotiation and as

the direct outcome of the negotiation process itself in conversation.

Swain (1985) agrees with Allwright and Bailey in that she regards negotiated interaction as essential. However, Swain centralizes output in language acquisition, particularly in the acquisition of the grammatical structure of a target language, and views interaction as only a means to output. Her argument is based upon the results of French immersion programs in Canada. Interestingly, this immersion program is the same program Krashen (1985) cited to support CI theory. He emphasized the superior success of the immersion program over all other methods and attributed the success to CI, which was provided through content-based language learning. Two researchers, Krashen and Swain, used the same program to argue for their own claims.

Swain's claim is that the students in the immersion program attained native-likeness in comprehension; however, they did not master the productive skills (i.e., speaking and writing) to the competency level of natives. She argues that CI may be sufficient for acquiring semantic competence but not sufficient for acquiring grammatical competence. She then concludes that output opportunities provide "opportunities for contextualized, meaningful use, to test out hypotheses about the target language, and to move the learner from a purely

semantic analysis of the language to a syntactic analysis of it." (Swain 1985, 243)

The questions of whether or not conversational interaction facilitates acquisition of syntax was addressed by Sato (1986). Sato conducted a longitudinal study with two Vietnamese adolescent subjects who were learning English in the naturalistic setting. The results of the analysis of past tense marking by the two subjects indicated that conversational interaction or assistance may facilitate communicative performance. However, Sato argues that the usefulness of conversational interaction for acquisition of certain syntax may depend on the structures of the utterances of native speakers, although it does facilitate acquisition of certain linguistic features.

The relationship between interactional modification and comprehension was examined by several researchers. First, Pica, Young and Doughty (1987) compared learner comprehension between modified input and non-modified input in interaction. According to the results of the comparison, they claim that in spite of the complexity of the non-modified input, the learners in their study performed significantly higher in comprehension when they were given interactional modification in contrast to when they received only modified input without interactional opportunity. The authors claim that the study

provides empirical support for the importance of interactional modification in facilitating comprehension of input.

Interaction between an instructor and learners is usually very limited due to the ratio of one instructor to many learners. A single native speaker can handle only one learner at a time to interact with one on one. The limitation of interaction in teacher-led activity opened the door to group work. Long and Porter (1985) reviewed several articles on group work and reported their findings on the role of comprehensible input and the negotiation work through interaction between learners.

In their study they present both pedagogical arguments as well as psycholinguistic rationale for group work. In brief, their pedagogical argument is that group work is beneficial in the following ways: (1) it provides learners with speaking practice opportunity and more functional usage of language; (2) it improves the quality of learner talk; (3) it promotes individualized instruction; (4) it promotes a positive affective climate, and (5) it motivates learners with language practice opportunities.

For a psycholinguistic rationale, they assert that group work provides comprehensible input through modified speech. Modified speech is simplified or adjusted speech which is an effort to accommodate the linguistic need of the

interlocutors. It has been claimed that more negotiation work is given in group work than in teacher-led activity.

Ellis (1985) also reports in his study that the role of interaction is very significant for comprehension. He claims that adjusted or simplified speech does not simply lead to comprehension. Rather, negotiated work through interaction results in comprehension; in other words, comprehensible input is obtained through interaction. Ellis argues that "if comprehensible input is a necessary condition for SLA, its provision needs to be understood in terms of the negotiation of mutuality of understanding between interactions rather than in terms of simplified input." (Ellis 1985, 82)

Whichever theoretical position we may take, it seems that interaction, whether it be social or 'linguistic', plays a crucial role for the following reasons: (1) it presumably improves comprehension (Johnson 1983, Pica, Young, and Doughty 1987); or makes input comprehensible (Long 1981a, Ellis 1985); (2) it helps learners gain communicative competence particularly discourse and strategic competence through negotiation work (Allwright and Bailey 1991, Sato 1986); (3) it provides opportunities for learners to test their hypothesis on a target language structure through output (Swain 1985), and (4) it increases the amount of input directed to learners (Seliger 1983).

Needless to say not all applied linguists agree on this point. Some researchers have reservations toward group work. For example, Allwright and Bailey (1991) caution us about the 'forced interaction' in the classroom. They state that, although teachers hold the power over the decision making when setting up a participant structure which will provide learners with interactive opportunities, forced verbal interaction can be hazardous to language learning for two reasons. First, the difference between the learner's learning strategy and the teacher's strategy can be counter-productive; second, forced interaction may ignore the interlanguage development of a learner. The authors call for the need of research on the extent to which learners observable participation leads to mastery of the target language as well as research on unobservable behaviors in the classroom.

Their warning is of importance; however, direct counter-arguments against classroom interaction are not many in number. The researcher's rationale for promoting interaction, particularly for adult learners, is partially in line with Swain's claim (1985) that learner output is a necessary mechanism of acquisition independent of the role of comprehensible input. L2 learners, particularly ESL adult learners, are oftentimes obliged to produce unrehearsed, spontaneous utterances in everyday life. The researcher argues that spontaneous productive skill is only taught and practiced when learners

are given oral interactive opportunity which simulates the real world (i.e., outside the classroom).

Natural Learning and Formal Instruction

The fact that this research originated and ended within instructional settings is founded on the assumption that formal classroom instruction provides advantages for learners over naturalistic settings, particularly for adult learners. Formal instruction is defined as a setting in which learners receive instruction and opportunities to practice the target language in order to acquire language proficiency. The manner (formal or informal) or geographical location (school or community hall) in which teaching or learning takes place is not considered in this definition.

Ellis (1989) reports in his study of thirty-nine students studying German as a second language (L2) in London that regardless of their L1 backgrounds, learners in instructed settings progress more rapidly than naturalistic learners in other studies and that the sequence of acquisition of grammatical structures in speech elicitation tasks is the same both in naturalistic and instructed L2 acquisition. Learners who were in instructional settings, however, progressed more rapidly than naturalistic learners in other studies. He further goes on to say that formal instruction may also be valuable in preventing fossilization.

The benefit of instruction is also reported by Long (1988). Based on the review of research on interlanguage development, the author argues that formal instruction has positive effects on SLA. Long (1985) argues:

First, formal SL instruction has positive effects on SLA processes, on the rate at which learners acquire the language, and on their ultimate level of attainment Second, there has clearly been insufficient research to warrant firm conclusions in any area we have considered, and no research at all in other important ones, such as the kinds of sociolinguistic competence (e.g., collocational abilities) achievable with and without instruction Third, the position taken by some theorists and methodologists that formal instruction in a second language is of limited use (e.g., that it is good for beginners only, or for "simple" grammar only), is obviously premature and almost certainly wrong. (Long 1988, 135)

Long also argues that second language learners may not be able to reach native likeness without instruction and that acquisition sequences of grammatical features (morphemes, word order) are unlikely to be altered with instruction.

A counter-argument for the effectiveness of instruction was presented by Felix (1981). He reported the negative effect of formal instruction based on a study with German high school students who learned English under the Audiolingual method. The results of the study, according to Felix, indicate that the acquisition of grammatical structures is similar to that of naturalistic L2 acquisition. Moreover, the study even found "teaching-induced errors" which, according to Felix, are the result of formal instruction which introduced structures to

students who were not developmentally ready.

The researcher rejects this claim for two reasons. The first reason is that the apparent similarities in two learning settings cannot validate the ineffectiveness of instruction. Second, the induced errors observed may be the reflection of the teaching method (i.e., Audiolingual method). To truly substantiate his claim, both rate and ultimate success of SLA need to be discussed.

In comparing instructional settings with naturalistic learning, what stands out most is that non-native speakers will normally receive negative evidence (i.e., what is not acceptable in a target language) through corrective feedback from a native in an instructional setting as well as graded structures of the language. The researcher's personal observation of many adult learners of ESL/EFL is that they are less tolerant toward ambiguity of sentence structures and structural rules. They appear to be more satisfied or comfortable with corrective feedback and graded materials than with no feedback and ungraded materials.

The benefits of naturalistic learning are the opportunities for communicative interactions and the exposure to authentic language input and the different functions of language although oftentimes non-natives are left confused in the midst of an overwhelmingly large amount of input. It seems very obvious to this researcher that instructed learning can

also accommodate non-natives with opportunities for genuine communication and authentic activities.

CLT, contrary to traditional instruction, seeks to integrate the benefits of the two settings with a greater emphasis on interaction and comprehension. The authenticity of materials (a crucial component of CLT) is maintained by grading, modifying and simplifying the input of the authentic materials and/or by simplifying tasks that use the same authentic materials.

Whether language practitioners boldly claim to be adherents to a certain method or not, the common goal among applied linguistics is that they more or less aim to be communicatively oriented in their approaches to teaching. Some teachers, based on the researcher's observations and dialog with them, claim to adopt a certain approach. The researcher, however, did not find their claim to be consistent with their teaching methods in the classroom.

It has been several decades since the aural-oral method was aggressively introduced and implemented by educators in Japan in the late sixties and early seventies. The advocates of this behavioristic approach to language teaching seem to have adopted CLT on a theoretical level, though this may not necessarily mean that they have also adopted its practical application in the classroom.

In Japan, the current propaganda for language schools and institutions now emphasizes social interaction with native speakers of English for learners to acquire communicative or conversational skill. The researcher is not quite certain whether this trend has been influenced by the main stream of applied linguists in the United States, or if the Japanese have come to their own conclusion apart from America. In conclusion, it may well be said that language teachers have adopted the theory behind CLT both in the EFL and ESL settings regardless of their actual application of CLT in the classroom.

CHAPTER 3

METHODS AND PROCEDURES FOR COLLECTING AND ANALYZING DATA

Procedures for the Collection of Data

The data collected for this study were taken from language classrooms which claimed to focus specifically on speaking skills or oral skills in English. The information regarding the focus of the lessons was obtained by speaking directly to the classroom teachers or to the directors of the language programs. Based on the simple geographical distinction (either in the United States or Japan) in which English was taught, the researcher identified two different settings: ESL is a setting in which English is taught in the United States as a second language, and EFL is a setting in which English is taught in Japan as a foreign language. In this study, the term 'setting' is understood not as being synonymous with the term used in speech act theory, but rather as referring to geographical location.

The identified settings were further subcategorized according to the context in which learning and teaching took place: academic and non-academic. The term 'context' refers to the immediate environment of learning as well as the purpose of learning. The primary goal of learning English in a non-academic context is for learners to acquire communicative

skill in English in order to function or survive in society (ESL) or to acquire cultural enrichment by speaking English (EFL). All of the non-academic ESL/EFL classes in this study were located outside a college/university campus. The learners in non-academic/EFL learn English for the purpose of cultural enrichment. The academic context is typically a language classroom located within a college or university. Academic context also includes the context in which learners learn English as part of the requirements in a university for credit.

Data collection for ESL took place in Dallas, Arlington, and Fort Worth in Texas. The data for academic ESL were collected from an intensive English program at The University of Texas at Arlington (UTA) and an ESL class which was offered to international students at Dallas Theological Seminary (a private graduate school). The data for non-academic ESL classes (typically called 'survival English class'), were collected at a tuition-free ESL class offered in East Dallas for immigrants and refugees and an ESL class offered to the wives of international students and businessmen in Dallas.

Data collection for EFL settings took place in Osaka and Yamanashi, Japan. Data for academic EFL were collected at Yamanashi Eiwa Junior College, which specializes in the English language. This particular junior college is a private two-year college and designed for female students only. The

data for non-academic EFL classes were collected at a church in Osaka and a YMCA English conversation school for housewives and office workers in Yamanashi. During data collection, the researcher did not give detailed information about the purpose of the recordings other than that the research purpose was to examine classroom interaction.

Because it was not possible to control the proficiency level of learners in the non-academic EFL/ESL classes, the two non-academic contexts may not be comparable on the level of proficiency. Due to the educational system in Japan, all Japanese are supposed to learn English at least minimum of six years as a foreign language. In contrast, learners in non-academic/ESL are typically immigrants and refugees who probably do not have such experiences in formal instruction of English. However, in general, learners seemed to range from beginning to low intermediate levels. There were no advanced or high intermediate students. For academic EFL/ESL, the researcher specifically targeted the intermediate level. The term 'proficiency' here does not necessarily accord with language proficiency levels defined by any specific organization or language proficiency test score (e.g., TOEFL). The researcher as well as the directors of the institutions used the words, 'beginning' and 'intermediate' as more general terms.

Ideally, in the investigation of possible gender-related issues in interaction, it is necessary that the gender of

learners be considered. Regrettably, this variable was beyond the control of the researcher. The distribution of the gender of the students in all classes varied greatly. With the exception of the academic EFL classes, which were offered in a private junior college specifically for women, all classes consisted of both male and female students. Although most of the classes had more female students than male students, the exact proportion of males to females was not recorded. The smallest class size consisted of only three students (one academic ESL) and the largest class had 22 students (all the classes for academic EFL had a minimum of 15 students). The non-academic ESL/EFL classes generally had a smaller number of students than the academic ESL/EFL classes.

Although the average size of an EFL class in Japan is quite large compared to an ESL class in America, the particular school in this study offered classes with a relatively small class size. The school has also maintained a reputable standing in English education in Yamanashi for decades and has several native speakers of English as faculty.

The total number of hours of recorded classroom interaction was 34: 15 hours for ESL and 19 hours for EFL. If the total hours were divided according to the context of learning (academic or non-academic), 24 hours were recorded in the academic ESL/EFL and 10 hours were recorded in the non-academic. When the context of teaching was considered, the

total hours for ESL/academic was ten hours, fourteen hours for EFL/academic, five hours for ESL/non-academic, and another five hours for EFL/non-academic (see table 1).

Table 1. Summary of Recording Hours
(Context x Setting)

Context		Context x Setting			
Acad	24	ESL/A	10	EFL/A	14
Non-aca	10	ESL/N	5	EFL/N	5
	34	ESL/TOT	15	EFL/TOT	18

The study also considered the gender of the instructor. The total recording hours was nineteen with male instructors and fifteen hours with female instructors. When setting and gender of instructor were considered in calculating the hours of recording, the total recording time with male instructors was eight hours in the ESL setting and eleven hours in the EFL setting. The total recording time with female instructors was seven in the ESL setting and eight in the EFL setting (see table 2).

Table 2. Summary of Recording Hours
(Gender of Instructor x Setting)

Gender of Instructor x Setting			
Male/ESL	8	Female/ESL	7
Male/EFL	11	Female/EFL	8
Male/total	19	Female/tota	15

Context and gender were also considered in subgrouping recording hours; however, the difficulty of locating non-academic contexts resulted in a rather small sample of recording time. This was due to the fact that the researcher specifically chose language classrooms which were offered for free or a minimal tuition (see table 3).

Table 3. Summary of Recording Hours
(Gender of Instructor x Context)

Gender x Context			
Male /Acad	13	Female/Acad	11
Male/Non-acad	6	Female/Non-a	4
Total	19		15

For the experimental study, the researcher recorded another two hours of classroom interaction in the context of ESL/non-academic. This data collection was made after two brief sessions of teacher training had been given to a male and female teacher. The result of the teacher training (treatment group) was compared to the previous recorded interaction (control group) which was collected from the same class with the same subjects prior to the teacher training.

Instruments

The main instrument to collect data was a micro-cassette tape-recorder which ran for one hour without interruption. The recorder was placed between the instructor and students during

teacher-led activities in the classroom. When a group activity was introduced to the class, the recorder was placed near one of the groups (randomly selected by the instructor) so that the tape-recorder was able to record detailed conversations among learners. In two classes, however, the researcher failed to remind the instructor to move the tape recorder near to one of the groups. As a result, the transcription of those particular group activities was partially incomplete. Also, during one lesson, the classroom became very noisy and the researcher was unable to transcribe the entire conversation between learners. It would be accurate to state, though, that most of the time, the researcher succeeded in recording the interaction of both teacher-led activities and group work activities.

During a two-hour lesson, the researcher changed the tape while learners had a break (usually 5 to 10 minutes). Except for one class in which the researcher was able to observe and manually record some significant interaction while the tape-recorder was running, all of the data of the academic classes were recorded without the presence of the researcher. The researcher was present at the time of recording for the non-academic ESL classes since she had served as a field instructor and a supervisor for those ESL teachers.

The Subjects

There were a total of 14 subjects who participated in this study: eight male teachers and seven female teachers; eight subjects for academic ESL/EFL and seven subjects for non-academic ESL/EFL. The discrepancy between the total subjects of setting and gender and the total subjects of academic and non-academic contexts was due to the fact that one female subject taught in both contexts (academic and non-academic) (see table 4).

Table 4. Summary of the Subjects

Setting		Gender		Context	
ESL	10	Male	8	Academic	8
EFL	4	Female	6	Non-acade	7
Total	14		14		*15

* One female participated in both contexts.

The age of subjects ranged from 25 to 55 at the time of recording. All of the subjects had a minimum of one year of language teaching experience. All of the subjects were native speakers of English and had a high academic backgrounds; twelve received MA degrees (or were in the process of working towards receiving one). The researcher failed to confirm if two subjects (non-academic EFL teachers) pursued graduate degrees after receiving a BA degree.

Global Research Design

In order to investigate the relationship between teacher input in the form of questions and learner production, the researcher considered two basic factors: internal or intrinsic and external. Factors that are internal or intrinsic to questions (such as form, function, topic, and wait time) may directly influence the outcome of teacher questions. Factors that the researcher claims to be external to questions are the gender of the instructor and the setting and the context of learning. These contextual variables are addressed as moderator variables in the study.

When transcribing the data, the researcher assigned special marks for all the variables (i.e., dependent, independent, and moderator variables). After transcription was complete, MacConc, developed by the Summer Institute of Linguistics, was used to count the number of instances of each independent and dependent variable. The word and clause count for learner production in response to teacher questions were manually counted. WT in post-solicitation was also counted manually using a large clock which was on the wall near the computer. Finally, the instances of all variables were manually entered into a spreadsheet for statistical analyses.

The two dependent variables, word count (WC) and clause count (CC), were manually counted and entered into a spreadsheet. The independent variables were form, function, topic of

a question (each with two levels) and WF (with three levels). Also, the instances of spontaneous learner production and their WC and CC for each utterance were entered on a separate spreadsheet. Statistical analyses were employed using JMP, a software program for statistical analysis developed by the SAS Institute.

The distributions of nominal (independent variables) and continuous values (dependent variables) were examined with the use of histograms. Shapiro-Wilk W Test reported normal distribution of the dependent variables (the sample size: $n < 2,000$).

A Chi-Square analyses examined the relationship of the moderator variables (e.g., setting, gender, context) with the independent variables. An Analysis of Variance (ANOVA) was employed for statistical analysis with a four-factor factorial design with 24 ($2 \times 2 \times 2 \times 3$) cells. Both the main effect of independent variables on the dependent variables and the interaction effect between the independent variables were examined by one-way, two-way, three-way, and the maximum of four-way ANOVA. The acceptable level of probability for all variables was set at 0.05.

Constructing Variables

Dependent Variable: Learner Production

The quantity of learner production was measured by the number of words (WC) and the quality was measured by the number of clauses (CC) produced in each speaking turn. When a turn violation occurred with an interruption but the previous speaker continued to complete the utterance after the interruption, the interruption was ignored and word count continued until the speaker finished his/her turn. The words uttered by the same speaker before and after an interruption were summed up. If an interruption resulted in another speaker's turn, then the researcher concluded that the previous speaker's turn was over.

The words supplied by others (either by a teacher or other learners) during his/her speaking turn were not counted. The minimum number of clauses in each turn was one whether the utterance was a single word or a whole sentence. This decision was based on the fact that a single word can function pragmatically as a sentence in a discourse. Interjections such as, 'uh', 'oh', and false starts were not included in WC.

A 'clause' included a main clause, subordinate clause and a complement clause (which included a finite clause). Non-finite and 'small clauses' (this was not found in learner production) were not counted as a clause. The exclusion of

non-finite and small clauses was not grounded syntactically in this study but rather based on the ease of production by learners. The researcher observed that learners had less difficulty in making non-finite clauses (e.g., "I want to go") than finite clauses and that they produced non-finite clauses more like formulaic speech.

Independent Variables

Learner production elicited by teacher questions are often affected by the nature of the teacher questions. To investigate the type of questions that are most effective in eliciting learner production, the researcher identified four independent variables in teacher questions. They are form, function, topic and WT.

Form generally referred to the syntactic form of a question but some pragmatics were considered as well, taking into account the discourse context in which a question occurred. Two types of forms in this study were considered: wh-questions and yes/no questions. Other forms of questions were either classified as wh-questions or yes/no questions based on the pragmatics of a question (i.e., based on the expected response). For example, if a teacher asks a question with an uninverted form with a wh-pronoun such as "you eat, what?", the said sentence is considered as a wh-question. If the pronoun, 'what' is pronounced with a rising tone, the

sentences is not considered as a question but rather as a clarification check.

A wh-question is a question which an interlocutor expects information for an answer. It may not necessarily have a wh-pronoun, though. A yes/no question expects either "yes" or "no" for an answer. According to the definition given here, rhetorical questions and sentences which were used pragmatically for other than asking for information, such as indirect requests, were excluded from analysis.

Tag questions and uninverted questions were considered as yes/no questions, while uninverted questions which required information other than yes/no and or-choice questions were marked as wh-questions. Wh-questions are said to be more difficult than yes/no questions because they require more cognitive ability to respond. When wh-questions are given, however, it is speculated that learners will produce longer utterances than they do to yes/no questions. This is because yes/no questions can be responded to non-verbally.

Questions that do not need a response such as the sentences which are intended for confirmation and clarification check were not counted as questions in this study. The following are examples of such constructions:

"Do you understand?",

"Do you understand what I mean?",

"Remember?", or "Do you remember?",

"Are you ready" or "Ready?"

"Is that right?"

The two functions of questions that were identified in this study were referential questions and display questions. Because the intention of an interlocutor determines the function of questions, distinction between the two types of questions was oftentimes difficult without paralinguistic features (which this researcher could have observed if she had been present in the classroom). Discourse analysis and conversational implicature played a crucial role in determining the function of a question (Hatch and Long 1980).

The question "when do adult learners talk?" has caused the researcher to investigate the conditions that facilitate learner production. One simple conclusion is that learners talk when they have something to say. Nunan argues that the reason why referential questions produce a greater quantity of communication is that they "encourage students to reflect on their knowledge, attitudes and beliefs, or which require them to follow through and justify a particular line of reasoning." (Nunan 1990, 192) The researcher speculates that if referential questions introduce topics relevant to the learners' life, learners may produce longer utterances.

Topic in this study refers to the content of a question (i.e., what is being asked). Topics are broadly categorized into personal and impersonal questions. Personal questions are

questions pertaining to the learner's personal life (e.g., rent they pay, health problems, grades, immediate family and so on) and his/her culture (ethnic food, geography, traditions and so on). Impersonal questions include topics that are irrelevant to the learner. The culture of a target language seems to be relevant because learners are actually living in the United States. However, the researcher intentionally excluded target culture from personal topics considering the fact that many international students and immigrants strongly hold to their cultural traditions.

Topics of questions have two levels: personal and impersonal. Impersonal questions are questions regarding instructional materials or something clearly irrelevant to the learners' life such as world politics or the economy.

The following sentences were taken from the original transcripts. The combinations of the different types of questions are indicated as follows:

- | | |
|------------|---|
| (w) or (y) | wh-question or yes/no questions |
| (i) or (p) | impersonal topic or personal topic |
| (d) or (r) | display question or referential question. |

(wdi)-question

T: Good, that's right fifty percent. Now, "it must be",
what percentage is "it might be" (wdi)

(This questions was preceded by a discussion of the meaning of modal verbs. An instructor summarized several modal verbs that were often used in conversation.)

T: Okay very good, "Honey, why are you so sad, I don't understand", what's that? what's that called? (wdi)

S: Contraction

T: Yeah, contraction, contraction is when we shorten it, put that apostrophe in it...

(wdp)-question

T: Where are you going for Spring vacation? (wdp)

(Prior to this question, the instructor already had obtained information about the student's vacation plans.)

S: This one is yellow, black, red, many many colors.

T: What kind of shoes? (wdp)

(The instructor could see the student's shoes (sneakers) from her position. The researcher happened to be present in class during recording.)

(wri)-question

T: Okay, who else got it, Who else has a bingo? (wri)
 okay, read the words.

(The instructor asked for a winner of a game that she introduced to the learners.)

T: Are you ready, listen carefully, ...okay, how many points did you get ? (wri), twelve? how many points? eighteen?"

(Learners listened to a part of music and identified the name of the songs.)

(wri)-question

T: Nichol, what kind of work do you like to do? (wri)

S: Design

(After the instructor talked about what kind of jobs were available in Dallas, he asked a question to one of the new immigrants.)

T: How do you like teaching, Satomi? (wri)

(A week earlier, Satomi actually had an experience of teaching English as a part of her practicum as an English major. The instructor asked her to share her experience.)

(ydi)-question

T: This is a difficult question you asked...can look and find answer? (ydi) [sci]

(The learners read a story of an airplane crash and was asked about the number of survivors.)

T: Is this a conversation? (ydi) "yes, I do", "No you don't," is this a (pause) ?

S: Discussion

T: Is it a discussion? (ydi)

S: Fight

T: Maybe, if you throw something, yeah, maybe, one of the ways a conversation is, well another thing is disagreement, see "agree", "disagree" <T writes on the board>, a lot of time, "ment" changes this into a noun, yes.

(ydp)-question

T: Is she wearing any jewelry, jewelry? (ydp)

S: Ah, only a ring

T: Only an earring, do you have a ring on? (ydp)

S: No

(The instructor was bombarding the learners with questions on what they were wearing.)

(yri)-question

T: Do you have questions about these? (yri)

(The instructor just finished explaining about next-week's quiz to the students.)

T: Was it difficult or easy or ..? (yri) okay, okay, usually my students tell me that my quizzes are average, not difficult...

(yrp)-question

T: Husband and wife, we may have pet's name for each other, the name only I use for my husband and he has a name for me, dear, sweet, do you have that ? (yrp)

(The instructor read a conversation between a couple and commented on the vocabulary in the conversation.)

T: Did you not play with a ball? (yrp)

S: No,.. in Cambodia, all the girls don't play with a ball.

(The instructor asked learners what kind of play they did in their countries.)

In the investigation of the relationship between learner production and teacher questions, the study also recognized WT as a significant variable. The rationale for this is based on Rowe's study (1974, 1986): the length of WT affects learner production.

Further rationale was taken from Bialystok's study (1981). Bialystok argues that second language learners rely on two kinds of knowledge (implicit and explicit) in communication. He claims that explicit knowledge requires more time than implicit knowledge and that learners need time to utilize both. This led to the researcher's speculation that delayed time or WT in the language classroom may influence learner production. There were three levels of WT variables in this study: WT of a second or less indicated by WT(a), WT of two seconds or longer indicated by WT(b), and WT of longer than three seconds indicated by WT(c). WT(a, b, c) was combined with other independent variables (form (w/y), function (r/d), topic (i/p)) and indicated in an angled bracket when transcribing the data. For example,

<wria> wh-, referential, and impersonal topic with WT (a)

<wrpb> wh-, referential, and personal topic with WT (b).

Any unrehearsed spontaneous student production which was not a direct outcome of a teacher's question was marked as 'spontaneous' (indicated as <spont> in transcription) whether it had been a question, statement or comment initiated by learners. Any learner initiated utterances which were unrehearsed and not the direct outcome of teacher questions were considered spontaneous production. Reading aloud from written texts and repetition of teacher utterances were not considered spontaneous. When the researcher sensed that learners were producing utterances based on their memories, they were not considered as spontaneous production whatever the utterances were. Spontaneous production oftentimes in the form of questions, statements, and comments may be addressed to either a native speaker or a fellow student. This included utterances learners had to make as a result of a teacher's direct or indirect request. For example, a teacher said, "Bunry, ask Chim a question" (in a non-academic/ESL classroom). The reason why the researcher considered this kind of utterance as spontaneous production is that the quantity and complexity of the response was at the learner's disposal. The researcher admits that there still existed a sense of force or power coming from the instructor and this might have psycholinguistically affected learner production.

Independent Variables (Moderators)

Three major moderator variables were recognized in order to examine the effect of external factors with respect to teacher questions. They were simply the gender of the instructor (male/female), the setting (ESL/EFL), and the context (Academic/Non-academic) of learning.

Experimental Design

Two subjects who taught an ESL/non-academic class for this study also participated as subjects for the experimental study. A lecture on how to maximize learner production in teacher-fronted activities was conducted over two short sessions (15 to 20 minutes). The sessions given to the two teachers were informative. The straight-forward results of this study (prior to the experimental design) were given with respect to what may facilitate learner production in the ESL/non-academic setting.

The relationship between WT and learner production was also explained. At the same time, very specific instruction on the types of questions that needed to be increased was given. A short, practical 'hands-on' training with the use of a 'pseudo-learner' was provided for the female teacher as she struggled with changing her interactional strategy with learners. The male subject only attended brief sessions.

CHAPTER 4

PRESENTATION AND ANALYSIS OF DATA

The Amount of Teacher Talk

The total number of words produced by the teachers and learners in the data was 73,759, with the exclusion of any utterances which were the result of reading from any written texts. When the total number of words produced by learners (responses elicited by teacher questions and spontaneous learner speech) was subtracted from the total data, 65,530 words, considered as teacher talk (TT), remained. When the total number of words in the data was weighed according to the recording time of the two genders (male, 19 and female, 15), settings (ESL, 15 and EFL, 19), and contexts (academic, 24 and non-academic, 10), it was found that the language teachers produced an average of 89% of the utterances in the classroom. There was also a noticeable difference between the two genders in the amount of TT. The female subjects produced more TT than the male subjects (see table 5).

Table 5. Amount of Teacher Talk in One-hour Lesson

	Gender		Setting		Context		Average
	Male	Female	ESL	EFL	Acad	Non-ac	
Word Count	1914	2493	2334	2040	2194	2109	2169
T.Talk	1633	2300	2058	1824	1980	1800	1927
Ratio	85%	92%	88%	90%	90%	85%	89%

The Shapiro-Wilk W Test ($n < 2,000$) revealed that the average percentage of TT was normally distributed across the subjects. The total WC and the amount of TT in the data correlate with each other at the significance level of $p < 0.05$.

Teacher Questions

The total instances of teacher questions were 1,590. Because the total recording hours of the external variables were not equal, the instances were divided by the recording hours of each external variable (i.e., gender, setting, and context), in order to obtain expected instances. Particularly noteworthy was the gender difference between actual instances and the expected instances. The male subjects asked more questions than expected and the female subjects asked fewer than expected. The subjects in the EFL setting asked more questions than expected and asked fewer questions in the ESL setting than expected. The total number of questions did not include some utterances that had interrogative constructions that pragmatically functioned differently than other questions (see table 6).

Table 6. Instances of Teacher Questions

	Gender		Setting		Context		Total
	M.	F	ESL	EFL	Acad	Non-a	
Total found	964	626	659	931	1194	396	1590
Expected	888	702	702	888	1122	468	1590

The subjects in this study used more wh-questions than yes/no questions in the classroom. Sixty-four percent of the questions was initiated by wh-questions (see figure 1).

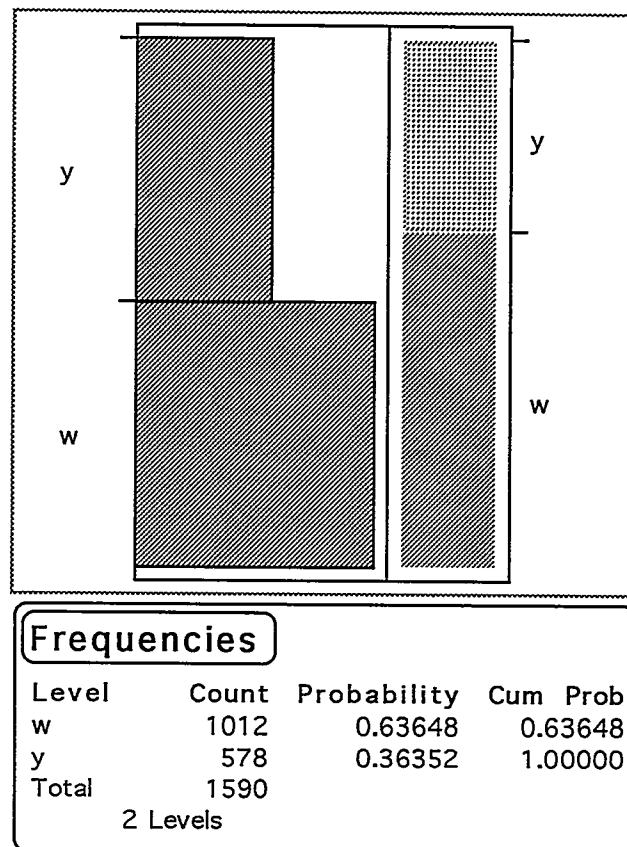


Figure 1. Distribution of form (proportion of wh- and yes/no questions).

The histogram in figure 1 (on the left) indicates each value (level) of Y variable. The Mosaic Chart (to the right of the histogram) indicates the proportion of each segment to its group's frequency count. According to figure 1, it can be said that the distribution of form is skewed with a larger proportion of wh-questions and fewer yes/no questions.

With respect to the different functions of teacher questions, the subjects in this study used referential questions almost as frequently as display questions. The results of this study were very different from the results reported by other researchers (Brock 1986, Long and Sato 1983). In their studies, 83 % of teacher questions were display questions.

As had been suspected, the majority of WT instances was a second or less. As shown in figure 2, seventy-four percent of the total instances of WT were WT(a). The combined WT of longer WT(b) and (c) was only 20 % of all WT variables (see figure 2).

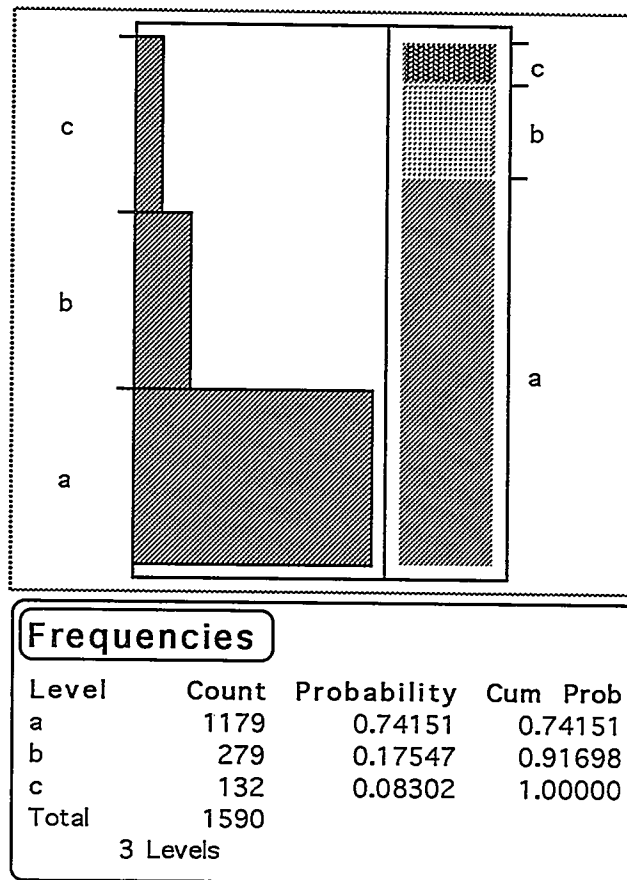


Figure 2. Distribution of wait time (proportion of WT(a), (b), and (c)).

Seventy percent of questions consisted of impersonal questions (i). It is likely that the instructors tend to avoid personal questions in public. It is interesting, however, that 30 % of the total questions were still personal questions (p), questions that were relevant to learners (family, their culture, friends and so on) in the language classroom (see figure 3).

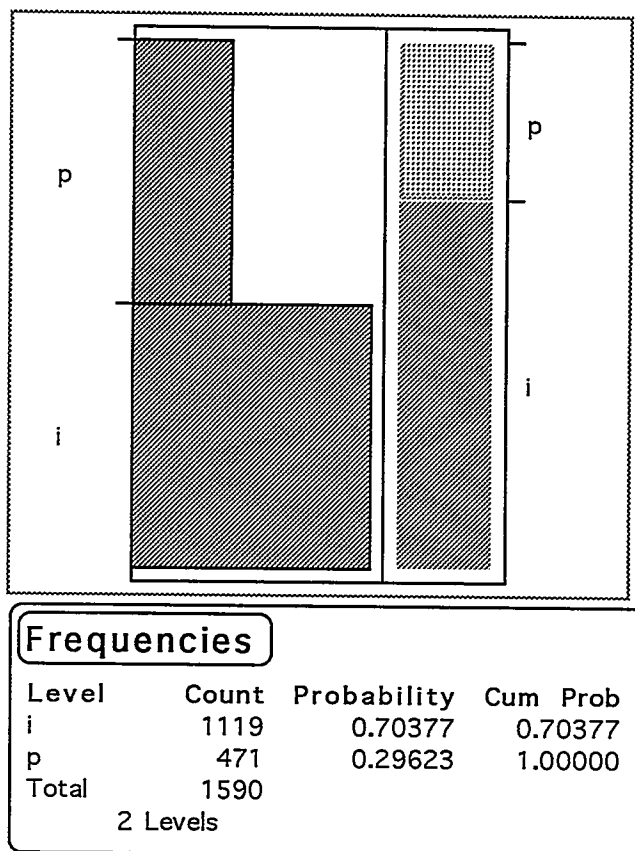


Figure 3. Distribution of topic (proportion of personal and impersonal topic).

Learner Production Elicited by Questions

The mean word count (WC) for learner production elicited by teacher questions was 2.5 per utterance. There was a Kurtosis problem in distribution (Kurtosis, 11.80) which indicates that there was a concentration around the mean in distribution: more than 50% of the learner response consisted of a single word. The result of one-way ANOVA revealed there was no significant difference between ESL (WC=2.6) and EFL

(WC=2.4) and between academic (WC=2.4) and non-academic (WC=2.7) contexts (see figure 4 and 5, table 7 and 8).

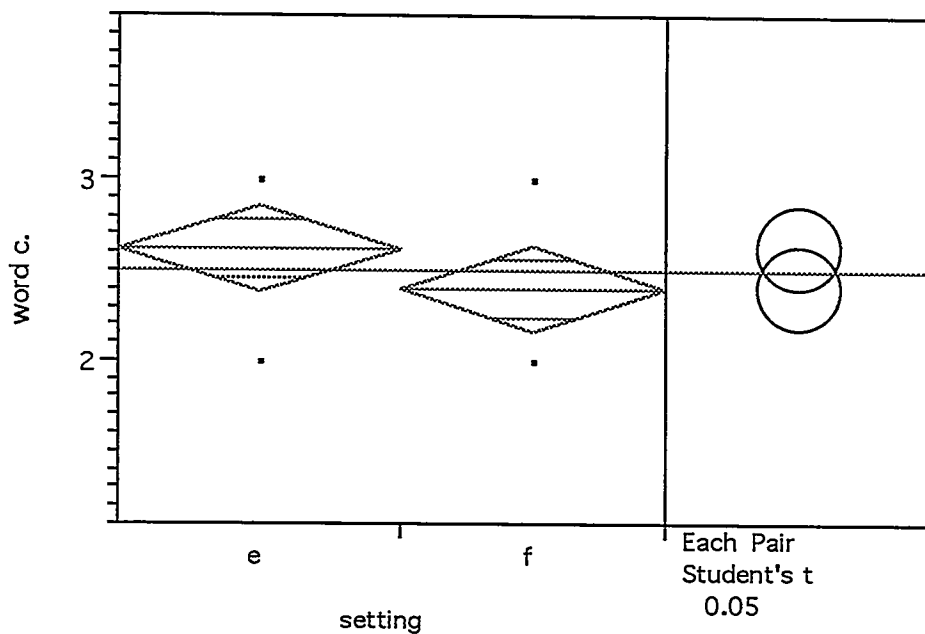


Figure 4. Mean WC in ESL and EFL (Y axis = WC per utterance). Gender and context were not considered.

Table 7. Result of One-way ANOVA
(Setting)

Analysis of Variance				
Source	DF	Sum of Squares	Mean Square	F Ratio
Model	1	10.3062	10.3062	1.5951
Error	825	5330.3927	6.4611	Prob>F
C Total	826	5340.6989	6.4657	0.2070

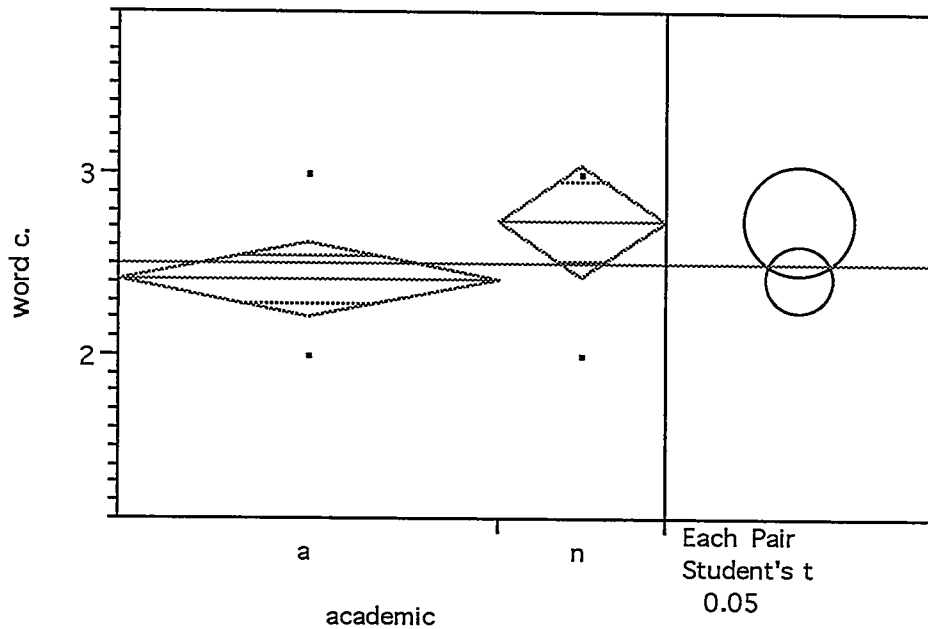


Figure 5. Mean WC in academic and non-academic (Y axis = WC). Setting and gender were not considered.

Table 8. Result of One-way ANOVA
(Context)

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Ratio	Prob>F
Model	1	18.2778	18.2778	2.8331	
Error	825	5322.4211	6.4514		
C Total	826	5340.6989	6.4657		0.0927

In figure 4 and 5, the horizontal line across the figure indicates the sample mean; the horizontal line within the diamond shape indicates each group mean. The bottom and the top of the diamonds indicate a 95% confidence interval. The X-Axis shows group sample sizes. The Comparison Circle also

provides visual information of whether group means are significantly different. When group means are significantly different, the circles do not intersect with each other (or intersect slightly with less than 90 degrees). Because the comparison circles in figure 4 and figure 5 intersect with each other with more than 5% overlap, there is confirmation of no significant difference between the two group means.

The mean clause count (CC) was 1.03 across the three moderator variables (gender, setting, and context) and four independent variables (form, function, topic, and WT). There was a significant correlation between WC and CC ($p < 0.05$). The forms of teacher questions had some effect on WC. The mean WC elicited by yes/no questions was slightly higher than the mean WC elicited by wh-questions; however, the difference did not attain the level of significance (F ratio = 3.1, $p > 0.05$).

Three of the four independent variables (function, topic and WT) had main effects and interaction effect on the mean WC. Although, yes/no questions generally resulted in longer mean WC than wh-questions, when they were combined with display and impersonal topics, the mean WC was shorter than wh-questions. Referential, personal, and longer WT were more effective in eliciting longer mean WC than display, impersonal, and shorter WT(a). There was an interaction effect between function and topic. Display questions resulted in

longer mean WC when they were combined with personal topics (see table 9).

Table 9. Summary of the Mean of WC

WT	(Display)				(Referential)			
	Personal		Impers		Personal		Impers	
	W	Y	W	Y	W	Y	W	Y
a(2.9)	5.1	3.8	1.6	1.6	2.9	2.6	2.7	2.8
b(3.6)	4	3.6	2.8	2.0	3.4	4.6	4.0	4.1
c(3.6)	*	*	2.8	3	3.6	*	5.1	3.7
	4.6	3.7	2.4	2.2	3.3	3.6	3.9	3.5

* No instances were found.

The results of one-way ANOVA test revealed a significant relationship between WC and the gender of the instructor (F ratio = 10.83, $p = 0.001$). The male subjects (WC=2.7) scored higher than the female subjects (WC=2.1) (see table 10 and figure 6).

Table 10. Result of One-way ANOVA
(Gender)

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Ratio	
Model	1	69.1728	69.1728	10.8256	
Error	825	5271.5261	6.3897	Prob>F	
C Total	826	5340.6989	6.4657	0.0010	

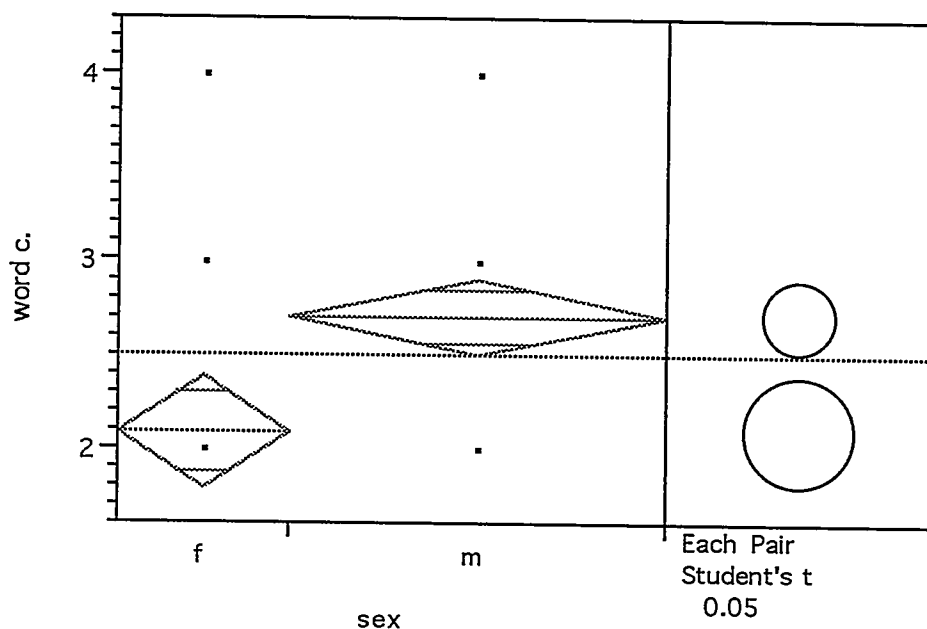


Figure 6. Comparison of mean WC by gender (Y axis = WC). Setting and context were not considered.

The comparison circles in figure 6 indicate that there is a significant difference between the two group means. The results of one-way ANOVA test also revealed that setting and context did not have significant main effects on WC.

Interestingly, the result of two-way ANOVA revealed a significant interaction effect between gender and setting on WC (see table 11, 12, and appendix E).

Table 11. Mean WC (Gender x Setting)

	Male	Female	Mean
ESL	3.02	1.85	2.43
EFL	2.39	2.37	2.38
Mean	2.71	2.11	

Table 12. Result of Two-way ANOVA
(Gender x Setting)

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	3	140.9221	46.9740	7.4349
Error	823	5199.7769	6.3181	Prob>F
C Total	826	5340.6989		<.0001

The total number of questions produced by the female subjects was 267 in the ESL setting and 359 in the EFL setting. The male subjects asked 392 questions in the ESL setting and 572 in the EFL setting. The male subjects succeeded in longer WC elicitation in ESL than in EFL.

The female subjects raised 542 questions in the academic context and 84 in the non-academic context. The total number of questions raised by male subjects was 652 in the academic context and 312 in the non-academic context. The context of learning also had a significant interaction effect with gender on WC. The female subjects scored lower in the academic setting than in the non-academic setting and the male subjects scored slightly higher in the academic setting than in the non-academic setting (see table 13).

Table 13. Mean WC (Gender x Context)

	Male	Female	Mean
Academic	2.78	1.76	2.27
Non-acad	2.56	3.47	3.02
Mean	2.71	2.61	

There was a significant two-way interaction between gender and setting (see table 14 and appendix E).

Table 14. Result of Two-way ANOVA
(Context x Gender)

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	4	445.4685	111.367	18.7006
Error	822	4895.2304	5.955	Prob>F
C Total	826	5340.6989		<.0001

Spontaneous Learner Production

There were 881 instances of spontaneous production by learners. Utterances that were purely repetitions of teacher speech and the utterances that were the direct result of reading from the text were excluded in this category of spontaneous production. The distribution of WC in spontaneous production had a Kurtosis problem (Kurtosis=16.13). More than 50% of utterances consisted of one to a maximum of four words. The mean clause count (CC) of all the spontaneous production was 1.15. The mean CC was 1.23 for statements and 1.01 for questions.

Learners uttered more statements than questions. More than 68% of the spontaneous production were statements and only 32% of spontaneous production was interrogatives. Out of all the statements, 450 were concerned with impersonal topics and 152 were concerned with personal topics. Eighty-one

percent of the total number of questions made by learners were referential questions, and display questions made up only 19%.

The strange existence of display questions categorized as learner spontaneous productions was mostly the result of teacher-forced activities. The researcher noticed that learners often asked questions whose answers were obvious. For example, one learner said to the other learner, "Are you a Cambodian?" Both learners escaped from Cambodia together in the 1980s and knew each other very well. Although the teachers did not directly ask questions, many used direct and indirect requests to make learners initiate questions for pedagogical reasons rather than for genuine communicative purposes.

The mean word count of spontaneous production (WC-SP) per utterance was 4.69. The learners in the female subject's class produced 5.35 WC-SP and the learners in the male subject's class produced 4.40 WC-SP. The difference between the two genders was significant (F ratio = 11.98, $p < 0.05$) (see figure 7).

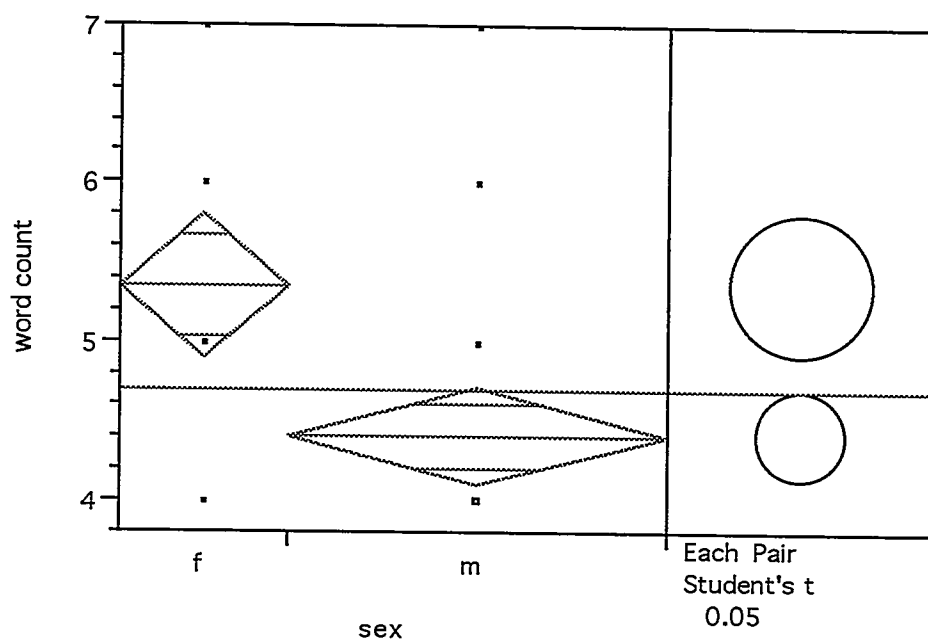


Figure 7. Comparison of spontaneous WC by gender (mean WC of learner's spontaneous production per utterance).

A significant two-way interaction was discovered. The three variables (i.e., gender, context, and setting) not only had main effects on WC but also had two-way interaction effects with each other. The results of ANOVA test revealed that there was no three-way interaction between gender, context, and setting (see table 15).

Table 15. Effect Test of Two-way ANOVA

Source	Nparm	DF	Sum of Squares	F Ratio	Prob>F
sex	1	1	146.8827	11.6608	0.0007
setting	1	1	156.6157	12.4335	0.0004
sex*setting	1	1	456.3107	36.2257	<.0001
academ	1	1	345.2427	27.4082	<.0001
sex*academ	1	1	378.1561	30.0212	<.0001
setting*academ	1	1	1087.6048	86.3431	<.0001

In this study, the learners initiated spontaneous production more often with female subjects in the EFL setting than in the ESL setting. On the other hand, with male subjects learners initiated speech production more in the ESL setting than in the EFL setting (see table 16).

Table 16. Mean WC of Spontaneous Production
(Gender x Setting)

	Male	Female	Mean
ESL	4.47	3.86	4.17
EFL	4.28	6.83	5.56
Mean	4.38	5.35	

The context of teaching had also a significant effect on WC when both the setting and the gender of the instructor were taken into consideration. The learners in this study produced more spontaneous production in the non-academic context with the female subjects than in the academic context, and the difference between the two settings was significant. In contrast, the learners in the male subject class on average initiated production much less than the learners in the female subject class; however, when examining the interaction between the male subject and the context, it was found that there was a longer mean WC of the learner spontaneous production with a male subject in the academic context than in the non-academic context (see table 17).

Table 17. Mean WC of Spontaneous Production
(Gender x Context)

	Male	Female	Mean
Academic	4.89	3.75	4.32
Non-acad	4.07	7.05	5.56
Mean	4.48	5.4	

Summary of the Experimental Design

The total amount of TT by the male subject was 85% and 90% by the female subject in the two treatment groups. This percentage of TT by the two subjects was within the range of standard deviation across the larger data. Both male and female subjects significantly increased the use of questions: 80% by the male teacher and more than 100% by the female teacher during the one-hour lesson. Compared to the same length of instruction in the control groups, the differences between the two groups in the total number of the questions was significant.

A closer examination of the different types of questions indicated that the two subjects behaved somewhat differently from each other in the relative use of each question. The male subject increased referential questions by 25%. However, he increased personal topics by only 7%. The significant increase of referential questions was revealed by the result of the Chi-Square test (Chi-Square value = 10.7 and $p < 0.05$). In

contrast, there was a decrease of longer WT (b) and (c) by 9% (see table 18).

Table 18. Comparison of Two Groups with a Male Subject

	Function		Topic		Wait time	
	Display	Referen	Impers	Persona	(a)	(b)+(c)
Control	43(81%)	10(19%)	44(83%)	9(17%)	35(66%)	18(34%)
Treatm	78(57%)	60(43%)	105(76%)	33(24%)	103(75%)	35(25%)
Total	121	70	149	42	138	53

The female teacher increased referential questions by 5% and the number of questions with personal topics by 14%. Also, there was a slight increase (2%) in the use of longer WT (see table 19).

Table 19. Comparison of Two Groups with a Female Subject

	Function		Topic		Wait time	
	Display	Referen	Impers	Persona	(a)	(b)+(c)
Control	15(68%)	7(32%)	20(91%)	2(9%)	17(77%)	5(23%)
Treatm.	74(64%)	41(36%)	88(77%)	27(23%)	86(74%)	29(26%)
Total	89	48	108	29	103	34

The effectiveness of the increased number of questions was measured by the mean WC of learner response. Both subjects indeed succeeded in eliciting longer mean of WC than in the control groups; however, the difference between the control groups and the treatment groups was very small and did not attain to the level of statistical significance. The male

subject increased WC by 10% whereas the female subject increased WC by 40% (see table 20).

Table 20. Comparison of Mean WC by Two Subjects

	Male	Female	Mean
Control Group	2.026	1.625	1.826
Treatment G.	2.243	2.283	2.263
Mean	2.135	1.954	

The mean WC of spontaneous production (WC-SP) also significantly increased in the class taught by the male (F ratio = 14.7, $p < 0.05$). The learners in his treatment group produced the mean WC-SP of 5 (3.2 in the control group). On the other hand, the learners with the female subject produced the lower mean WC (2.9) than in the control group (4.5).

Research Questions Revisited

Research question 1

Are there any significant relationships between the amount of TT and the three moderator variables?

The amount of teacher talk (TT) was manually calculated by subtracting learner production from the total number of WC in the data. Learner production included learner responses elicited by teacher questions and learner initiated spontaneous production in the form of questions, comments, and statements. Learner production did not include any rehearsed

speech, reading from the text, drill practice, and words supplied by a teacher while a response to a question was made.

The ratio of the amount of TT in the total WC was calculated and analyzed with the use of Analysis of Variance (ANOVA): the main effect of setting, context, and gender of the instructor and the interactive effect on the amount of TT. After finding the insignificance of three-way interaction, the analysis of two-factorial design was employed.

The Shapiro-Wilk W test revealed a normal distribution of TT. The average percentage of TT is 88.5%: females, 92% and males, 85%. The setting (ESL or EFL) and the context (academic or non-academic) had no effect on the amount of TT. The female teachers produced more TT than the male teachers, however, a significant level was not attained ($p > 0.05$). The result of three-way ANOVA test indicated that there was no interaction effect of the three variables on the amount of TT.

Research Question 2

Is there an overall difference in the number of questions and the type of questions among the three moderator variables (i.e., gender, setting, and context)?

The frequency of questions was examined using histograms and the type of questions preferred among the three moderator variables was examined using Chi-Square tests.

Gender had no significant effect on the frequency of form (wh- or yes/no questions), but it did have a significant effect on the frequency of function, topic, and WT of the questions. The females in the study asked more display questions (63% of the time) than the males (38% of the time) while the males asked more referential questions (55%) than the females (46%). The difference was significant (Chi-Square value = 15.479, $P = 0.0007$) (see appendix A).

In general, the male subjects asked more personal questions (68% of the time) than the female subjects (32%). The females asked more impersonal questions (74%) than the males (68%). A significant level was also attained (Chi-Square value = 7.548, $p = 0.006$) (see appendix A). The gender difference was also significant in WT variables. Both male and female subjects waited a second or less 74% of the time; however, the males waited longer than the females. The instances of WT(c) with female subjects were very small compared to the male subjects. The difference was significant (F ratio = 12.70, $p = 0.0007$) (see table 21 and appendix A).

Table 21. WT with Two Genders

wait time	females	males	total
a	487(78%)	692 (72%)	1179
b	107(17%)	172 (18%)	279
c	32(5%)	100 (10%)	132
	626	964	1590

Setting did not have any significant relationship with function and topic of the questions but it had a slight effect on the use of forms. The subject in the ESL setting utilized more wh-questions than yes/no questions ($p < 0.038$). Setting made a significant difference in WT (Chi-Square value = 20.40, $p < .0001$). Both male and female teachers waited longer in the EFL setting than in the ESL setting. The ESL teachers gave WT(a) 80% of the time, whereas the EFL teachers gave WT(a) 70% of the time. The context of learning, whether academic or nonacademic, did not have any effect on the frequencies of certain types of form, function, topic, and WT.

Context, whether academic or non-academic, did not make any significant difference in the use of different types of teacher questions. In both contexts, subjects used more wh-questions than yes/no questions; used more impersonal topics than personal topics; and raised more display questions than referential questions. Although exhibiting only miniscule differences, there was a slight increase of personal topics in non-academic contexts (32%) over academic contexts (29%). The difference was insignificant. The use of different WT was almost identical in the two contexts (see appendix B).

Research question 3

Is there any correlation between the success rate of elicitation and the different types of questions?

Is there any correlation between the success rate of elicitation and gender, setting, and context?

The success rate of the response elicitation with the use of different types of questions was measured by calculating the percentage of the total number of responses to the total number of questions with the consideration of gender, setting, and context. There was no significant difference across the different types of questions with regards to the success rate of elicitation with the exception of a slight difference between the two forms of questions. The success rate of elicitation with yes/no questions (46%) was lower than wh-questions (56%). The average success rate across the different types of questions was 51%.

A significant difference of success rate was found among gender, setting, and context. The male subjects (59%) succeeded in elicitation more than the female subjects (42%), the ESL teachers (65%) succeeded in elicitation more than the EFL teachers (43%), and the teachers in the non-academic contexts (63%) succeeded more than the teachers in the academic contexts (48%). The success rate also was slightly affected by the type of questions and given WT. Between display and referential questions, there was virtually no difference in the success rate of elicitation (display 52.4%, referential 51.5%). The success rate was slightly higher with personal

questions (53.9%) than impersonal questions (51.2%) (see table 22 and appendix C).

Table 22. Success Rate of Elicitation

	Gender		Setting		Context	
	Male	Female	ESL	EFL	Acad	Non-ac
Questions	964	626	659	931	1194	396
Responses	567	260	429	398	576	251
Percentage	59%	42%	65%	43%	48%	63%

Research Question 4

Does the length of WT affect the length and complexity of learner responses?

One-way ANOVA was used to analyze the data to determine if any significant relationship between WT variable and WC could be discovered. The effect of WT on learner production was also examined with respect to the complexity of learner production. Insufficient data for WT(c) variable necessitated the combined analysis of the data. The researcher investigated the combined WT (b+c) effect on learner production.

A significant correlation between WT(a), WT(b), and WT(c) and mean WC was found with the use of one-way ANOVA (F ratio = 12.70, $p < 0.0001$). The shortest WT(a), a second or less, resulted in the smallest mean WC (WC=2.2) and the longest WT(c), three seconds or longer, resulted in the longest mean WC (3.3). The most noticeable difference was between

WT(a) and WT(b). However, there was no significant difference between WT(b) and WT(c) in the elicitation of learner production (see table 23 and figure 8).

Table 23. Mean WC of WT

Level	Number	Mean	Std Error
a	614	2.24919	0.10119
b	148	3.22973	0.20611
c	65	3.30769	0.31102

Std Error uses a pooled estimate of error variance

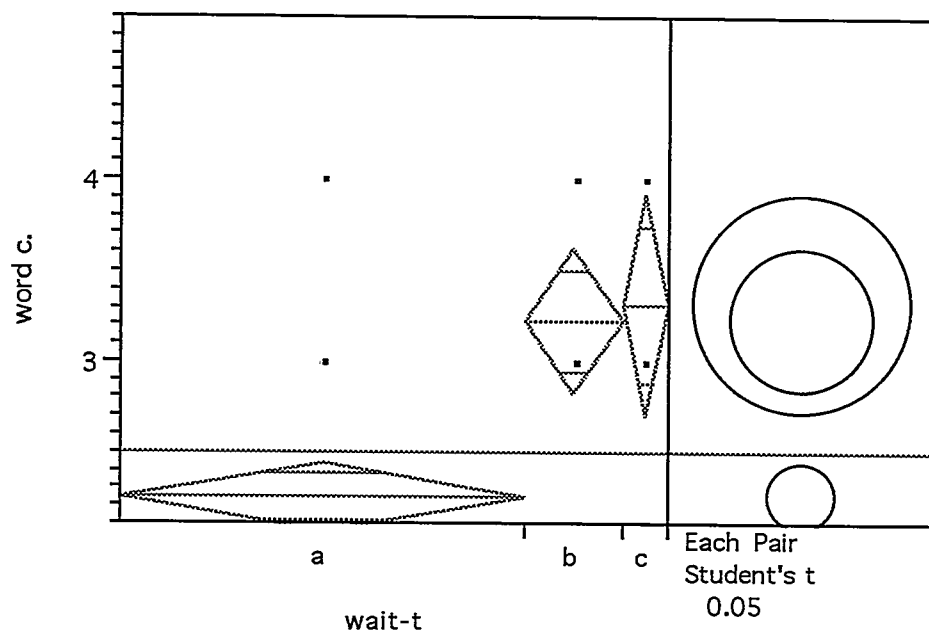


Figure 8. Mean comparison of wait time and WC (mean WC per utterance as a result of different WTs).

The Comparison Circle in figure 8 indicates that the group mean for WT(b) was nested within WT(c), which indicates

that the difference between (b) and (c) was insignificant. The insufficient samples of WT(c) variable caused a loss of degree of freedom in statistical analysis while the researcher was investigating multiple interaction effects on learner production. Since the instances of WT(c) were small in number, the researcher combined WT(b) and WT(c) to investigate an overall difference between WT(a) (a second or less) and WT(b+c) (more than a second) and their interaction effect with other variables. The result indicated that the WT(b+c) mean was much higher than the WT(a) mean. The upper and lower points of two diamonds which indicates 95% confidence interval do not intersect with each other (see figure 9).

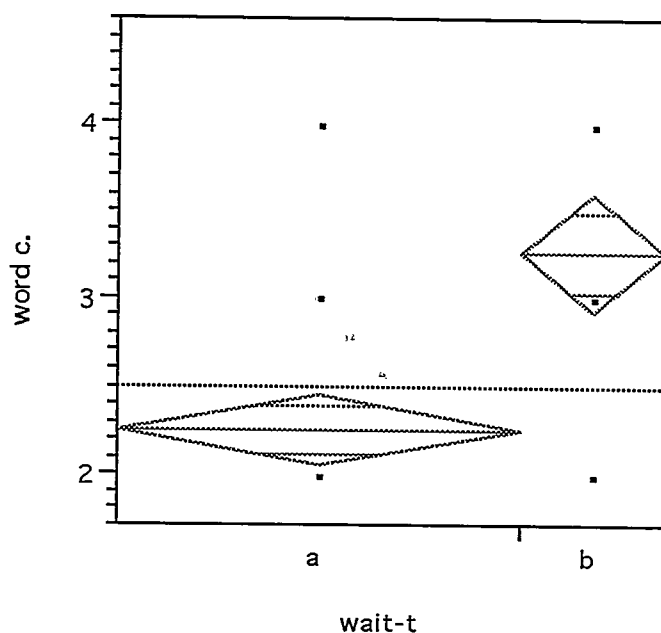


Figure 9. Mean comparison with combined WT(b+c) x WC (Y axis =word count).

Research Question 5

Do learners produce longer and more complicated utterances with wh-questions than yes/no questions?

One-way ANOVA was used to examine the relationship between mean WC per utterance and the form of questions. The subjects in this study used more wh-questions than yes/no questions. The form of questions did not have a significant effect on the length of learner production ($p > 0.05$) (see figure 10).

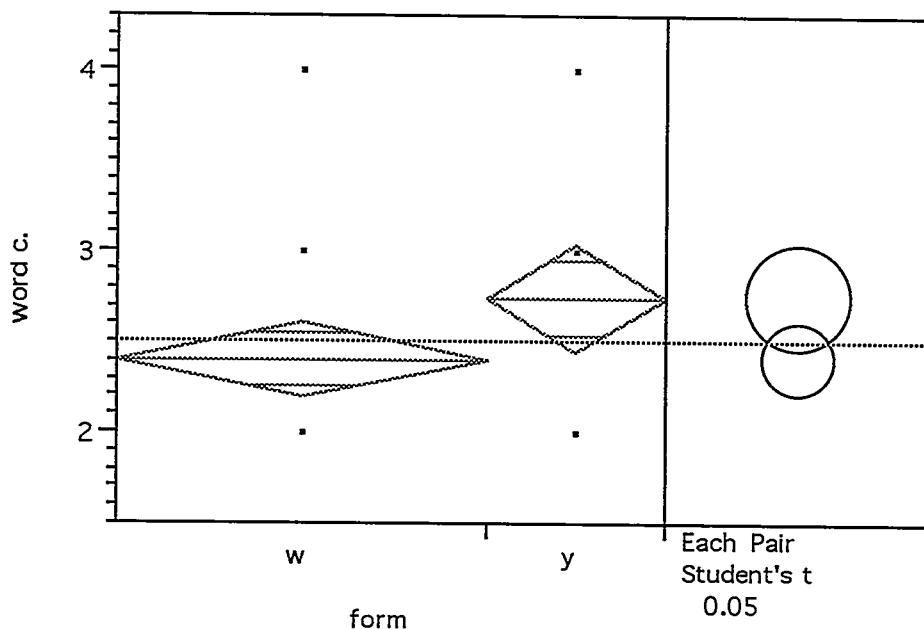


Figure 10. Mean comparison of form x WC (mean WC per utterance as a result of wh- and yes/no questions).

Research Question 6

Do referential questions result in longer and more complicated utterances than display questions?

The relation between the function of questions and learner production was examined using one-way ANOVA. The result of one-way ANOVA revealed that there was a significant relationship between the function of questions and learner production (F ratio = 32.37, $p < 0.001$). The mean WC of learner response for referential questions was 3.0 per utterance and 2.0 for display questions. Both subjects succeeded in eliciting longer learner utterances with referential questions than with display questions across the variables of different instructor gender, setting, and context (see table 24).

Table 24. Mean WC of Function

Level	Number	Mean	Std Error
d	435	2.03908	0.11967
r	392	3.02806	0.12606

Std Error uses a pooled estimate of error variance

The mean WC reported here is significantly shorter compared to the previous study by Brock (1986). In her study, the mean WC elicited by referential questions was 10 and display questions was 4.23. The great differences between the

learners in her study and the learners in this study may be attributed to the proficiency level of learners. In Brock's study, sixteen out of twenty-four non-native speakers of English were enrolled in the most advanced course of the English Language Institute at the University of Hawaii. The learners in this advanced course usually score 470 to 520 on the TOEFL (Brock 1986, 51). Regardless of the differences in the mean WC in two studies, it is still obvious that referential questions resulted in longer mean WC than display questions. A significant difference between the two group means was revealed by the Comparison Circles (see figure 11).

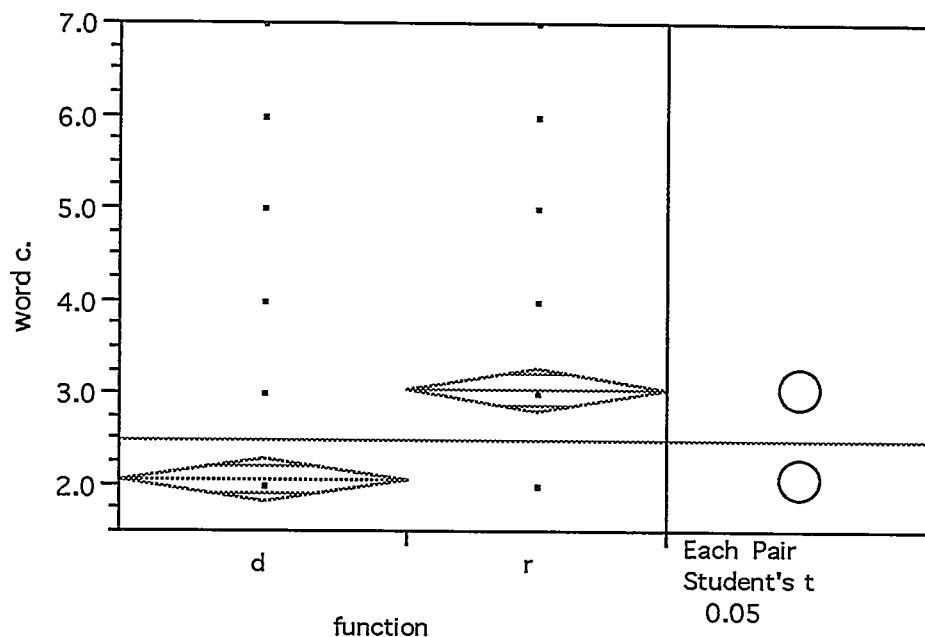


Figure 11. Comparison of group mean (function) (mean WC per utterance as a result of display and referential questions).

Research Question 7

Do topics relevant to learners (personal) result in longer and more complicated utterances than topics irrelevant to learners (impersonal)?

The relation between the topic (personal or impersonal) of a question and the learner production was examined using one-way ANOVA.

Learner production was significantly affected by the topics of the questions (F ratio = 21.9, $p < 0.0001$). The questions with personal topics elicited longer utterances ($WC = 2.2$) than those of impersonal topics ($WC = 3.1$) (see table 25).

Table 25. Mean WC of Topic

Level	Number	Mean	Std Error
i	573	2.23560	0.10491
p	254	3.12205	0.15756

Std Error uses a pooled estimate of error variance

The topic of questions also had a significant effect both on the length and the complexity of learner production (F ratio = 11.95, $p < 0.0001$). In general, personal topics resulted in longer and more complicated learner production. The comparison circles of group means indicated that the two group means did not intersect with each other (see figure 12).

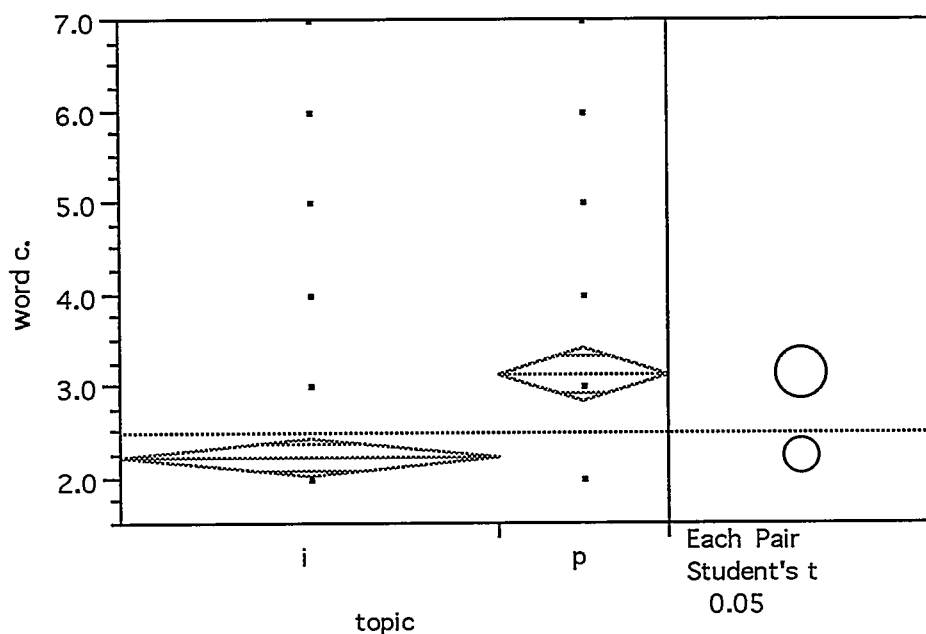


Figure 12. Comparison of group mean (topic) (mean WC as a result of personal and impersonal topics).

The result of the significant differences in mean WC indicated that the learners in this study were more likely to respond to the questions that were relevant to their lives than to irrelevant topics. Questions with personal topics always elicited longer mean WC than impersonal topics regardless of a given WT variable.

Research Question 8

Are there any significant interaction effects of form, function, topic, and WT on learner production?

First of all, four-way ANOVA was employed to examine the possible interaction. Upon finding any significant or

insignificant results, three-way and then two-way ANOVA tests were employed. Interaction was also examined with adjusted or combined WT(b+c) when necessary.

There was observable interaction between the topic and function of questions. (F ratio = 16.48, $p < 0.0001$). The display questions resulted in longer WC (WC=4.2) with a personal topic than with an impersonal topic (WC=1.9). But referential questions made little difference: impersonal topics, WC=3.1 personal topics, WC=3 (see figure 13 and appendix D).

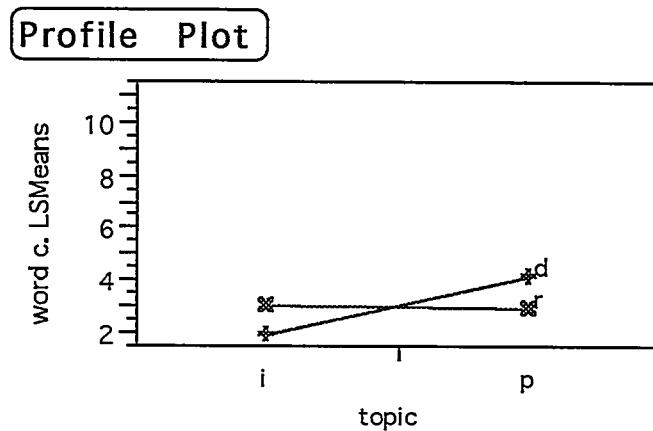


Figure 13. Interaction (topic x function) (two-way interaction effect on mean WC).

Due to the insufficient amount of samples in the WT(c) cell, this researcher combined the two longer WT(b) and WT(c) to create a new WT(b+c). The ANOVA test with a combined

WT(b+c) variable indicated that there was no significant four-way interaction, neither was there any observable three-way interaction. The results revealed that the two independent variables, topic and WT, contributed to a longer WC independently of each other. There was no interaction effect on WC between the form of questions and the combined WT(b+c). Both wh-questions and yes/no questions increased word count when given a longer WT (see figure 14).

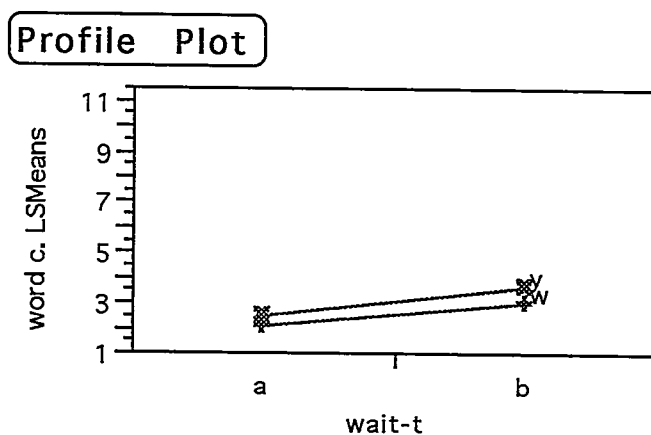


Figure 14. Profile plot (form x WT)
(two-way interaction effect on mean WC).

The questions with both personal topics and impersonal topics increased mean WC when they were given a longer WT(b) (see figure 15).

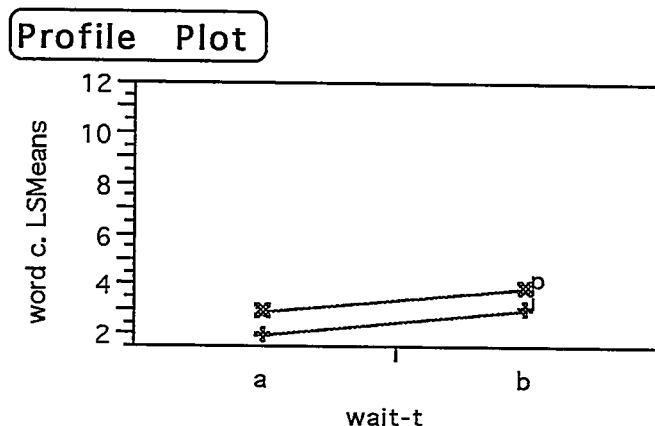


Figure 15. Profile plot of topic and adjusted WT (a) and WT(b+c) (two-way interaction effect on WC).

With adjusted or combined WT(b+c), it became further obvious that a question with a personal topic resulted in increased WC (see table 26).

Table 26. Adjusted Mean WC of Topic x WT

	Impersonal	Personal	Mean
WT(a)	1.94	2.89	2.415
WT(b+c)	3.07	3.76	3.415
Mean	2.50	3.32	

Display questions do not interact with the length of WT. Whether given WC(a) or WT(b), display questions resulted in the same mean WC. The significant difference was found in the relationship between referential questions and WT. Although display questions did not have a significant effect on WC when given WT(a) or WT(b), referential questions resulted

in longer mean WC when WT(b+c) was given (see figure 16).

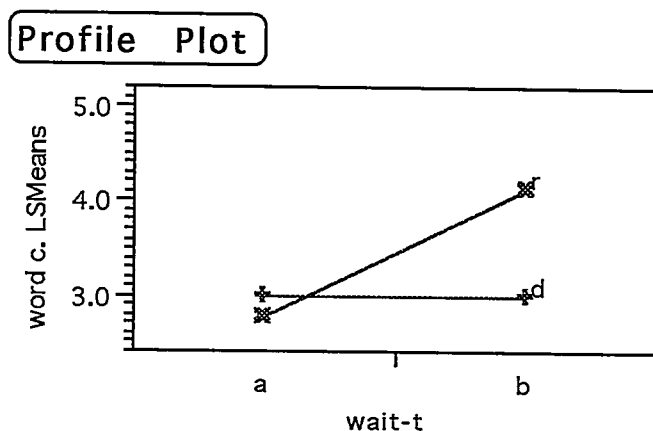


Figure 16. Profile plot of WT x function (two-way interaction effect on WC).

The ANOVA test did not reveal a three-way or four-way interaction among independent variables. The least WC (WC=1.6) was elicited by display questions of impersonal topics with WT(a), followed by display questions of impersonal topics with WT(b) (WC=2.7). The longest WC of learner production (4.8) was elicited by referential questions of impersonal topics with WT(c), followed by display questions of personal topics with WT(a) (WC=4.5).

There were no instances of display questions with personal topics combined with WT(c). When teachers asked personal questions, they rarely gave three seconds or longer WT before the learners responded. It should also be noted that impersonal questions always resulted in longer mean WC when

given a longer WT whether or not they were display or referential questions. Overall, the least effective combination was a display question with an impersonal topic, and the most effective combination was a display question with a personal topic (see table 27).

Table 27. Summary of Mean WC (Function x Topic x WT)

	Display personal	Display impers.	Referen. personal	Referen. impers.	Mean
WT (a)	4.5	1.6	2.8	2.8	2.9
WT (b)	3.6	2.7	4.0	4.0	3.6
WT (c)	*	2.8	3.6	4.8	3.7
Mean	4.1	2.4	3.5	3.9	

* No instance was found in the data.

Research Question 9

Do any of the moderator variables have an interaction effect of form, function, topic and WT on learner production?

First, each moderator variable was examined in its relationship to each independent variable. Second, the relationship of one moderator variable to the independent variable (interaction) was examined. Lastly, the possible relationship between the multiple moderator variables and the multiple independent variables was investigated using two-way, three-way, and a maximum of four-way ANOVA testing.

Significant interaction effects were found between the three moderator variables (gender, setting, and context) and three independent variables (function, topic, WT). First, a two-way ANOVA test revealed a significant interaction effect of gender and combined WT (b+c). Gender and WT had main effects as well as an interaction effect on WC. Both main effects and an interaction effect attained a significant level of $p < 0.05$ (see table 28).

Table 28. Result of Two-way ANOVA (Gender x WT)

Effect Test						
Source	Nparm	DF	Sum of Squares	F Ratio	Prob>F	
sex	1	1	103.06822	16.7165	<.0001	
wait-t	1	1	62.23025	10.0930	0.0015	
sex*wait-t	1	1	49.36640	8.0067	0.0048	

The mean WC for the female subjects was 2.06 with WT(a), 2.04 with WT(b), and 2.4 with WT(c). The mean WC for the males was 2.34 with WT(a), 3.69 with WT(b), and 3.58 with WT(c). The length of WT did not affect WC for the female subjects, although it made a significant difference between WT(a) and WT(b) (figure 17).

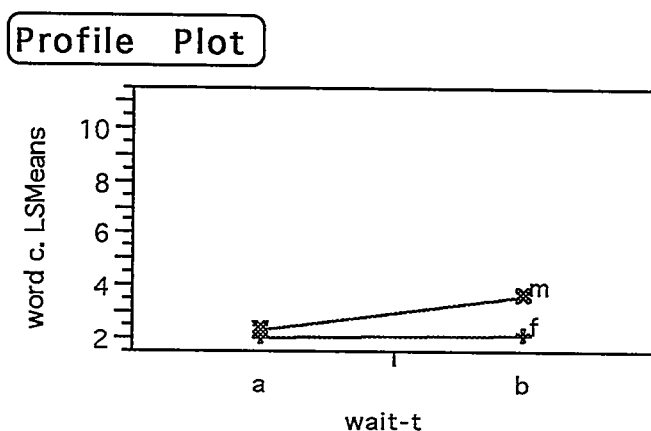


Figure 17. Profile plot by gender and WT (two-way interaction effect on WC).

With two levels of WT, (i.e., WT(a) and WT(b+c)), the Profile Plot indicated a sharp increase of WC with the male subjects. A significant interaction effect of gender and topic on WC was discovered (F ratio = 9.50, $p < 0.05$). The female subjects were more likely to elicit longer WC with personal topics (3.4) than the male subjects (3.0). On the other hand, the male subjects were more likely to elicit longer WC with impersonal topics (2.5) than the female subjects (1.6).

There was a significant interaction effect in WC between function and setting (F ratio = 11.03, $p < 0.05$). Referential questions were more effective than display questions in the ESL setting, whereas display questions and referential questions did not produce a significant difference in WC. The learner in the EFL setting did not seem to respond to the function of questions (see figure 18).

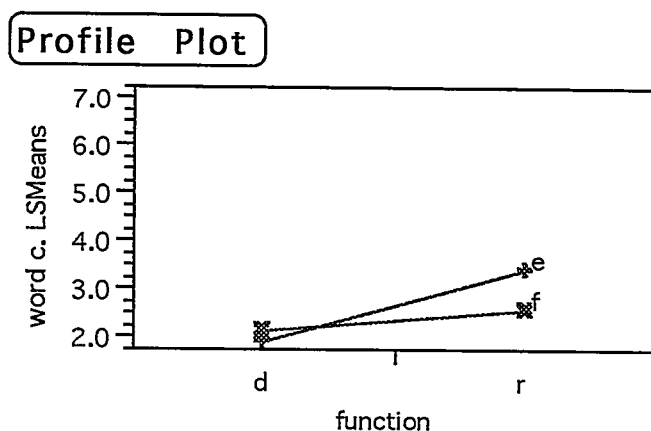


Figure 18. Profile plot by function x setting (two-way interaction effect on word count).

A significant three-way interaction effect was found among gender, setting, and function of questions. Setting had an insignificant main effect on learner production with the presence of two other variables (i.e., gender, function); however, it showed a significant interaction effect with each other on learner production (see table 29).

Table 29. Result of Three-way ANOVA (Gender x Setting x Function)

Effect Test						
Source	Nparm	DF	Sum of Squares	F Ratio	Prob>F	
sex	1	1	31.24428	5.2048	0.0228	
setting	1	1	2.71039	0.4515	0.5018	
sex*setting	1	1	43.80587	7.2974	0.0070	
function	1	1	92.90982	15.4774	<.0001	
sex*function	1	1	0.03813	0.0064	0.9365	
setting*function	1	1	0.61431	0.1023	0.7491	
sex*setting*function	1	1	125.72410	20.9437	<.0001	

A significant effect lies in the female subjects tendency to behave quite differently in ESL and EFL settings. Female subjects were more likely to succeed in elicitation in EFL settings rather than ESL settings. The male subjects in EFL elicited longer utterances by referential questions, but female subjects in EFL elicited longer utterances by display questions. In the ESL setting, the results were reversed. The female subjects elicited longer learner responses by referential questions while the male subjects elicited longer utterances by display questions. The female subjects were least likely to succeed in eliciting longer WC with display questions in ESL settings. On the other hand, the male subjects elicited the least WC with display questions in EFL settings (see table 30).

Table 30. Mean WC of Gender x Setting x Function

	Female: ESL	Female: EFL	Male :ESL	Male :EFL
Display Q	1.89	1.58	1.96	2.42
Referen Q	1.68	3.38	3.67	2.37

There was also three-way interaction among gender, context, and function (see table 31).

Table 31. Result of Three-way ANOVA
(Gender x Context x Function)

Analysis of Variance				
Source	DF	Sum of Squares	Mean Square	F Ratio
Model	7	354.8794	50.6971	8.3278
Error	819	4985.8195	6.0877	Prob>F
C Total	826	5340.6989		<.0001

Referential questions were most effective in non-academic settings with the female subjects and in academic setting with the male subjects. It is worth noting that the least successful elicitation was done by female subjects in academic contexts with display questions. Notice also that female subjects did not succeed in longer elicitation no matter what function they used (see table 32).

Table 32. Mean WC of Gender x Context x Function

Gender	Context	Function	N Rows	Mean(WC)
Female	academic	display	368	1.752941
Female	academic	referential	174	1.780488
Female	non-academ	display	23	2.1875
Female	non-academ	referential	61	4.090909
Male	academic	display	249	2
Male	academic	referential	403	3.205882
Male	non-academ	display	190	2.459016
Male	non-academ	referential	122	2.7

Research Question 10

Are learners linguistically capable of participating in a group-work activity independently of language teachers?

In general, learners seem to be ready for learner-centered activity which provides more verbal interaction opportunities. This is evidenced by the fact that the mean WC for learner production elicited by teacher questions was 2.5 per utterance. However, the mean WC for spontaneous production was 4.69. Based on the results of this study, the researcher speculates that teachers, in general, underestimate the learner's ability and do not provide more challenging opportunities for verbal interaction.

Caution, however, must be given since all learners seem to have trouble in constructing interrogative sentences. Although the avoidance of certain structures does not necessarily mean learners lack competence in producing structures, it is most likely that they had certain syntactic limitations as the evidence indicates across the data.

Nevertheless, a simple comparison of mean WC for learner production elicited by teacher questions and WC-SP indicated that learners produced more WC in spontaneous production (WC-SP=4.7) than in teacher elicitation (WC=2.5). Learners also produced more complex utterances in spontaneous production (CC-SP=1.15) than in teacher elicited production (CC=1.03).

Based on these results, there is good reason to assume that the learners in this study are capable of taking on more group work activities independently of teachers.

Research question 11

Does teacher training on the effective use of questions make a difference on learner production?

The class that was taught by the same teachers before the teacher training was used as a control group. The class after the training was used as a treatment group. The results of the control groups and treatment groups were compared with respect to the length and the complexity of learner production both in teacher-led activity and group activity. Any moderator variables that may have affected learner production were also investigated. The method of analysis was Person Chi-Square tests, percentage (for teacher talk), and two- and three-way ANOVA.

The two sessions of teacher training did not make a difference in the amount of teacher talk between the control groups and the treatment groups. The difference, however, was that both teachers significantly succeeded in raising more questions throughout the lessons. They also succeeded in increasing the mean WC of learner responses.

Although decreased spontaneous WC in the female subject class needs further investigation, it is plausible to conclude

that, in general, teacher training had an effect on learner production elicited by teacher questions.

CHAPTER 5

SUMMARY, DISCUSSION, CONCLUSION AND RECOMMENDATIONS

This chapter includes a summary of the purpose, methodology, and significant findings of this study, followed by a discussion of the important findings. Conclusions and recommendations for further research are also presented.

Summary

The purpose of this study was to seek the facilitative or optimal conditions for the development of oral skills for adult learners. First, the researcher attempted to establish a theoretical rationale for social interaction in the language classroom that is crucial for the development of oral proficiency in English. Second, the researcher conducted empirical research on classroom interaction in order to investigate the relationship between teacher questions and learner production. The relationship of the two was examined by measuring word count (WC) and clause count (CC) of learner production in response to teacher questions.

In addition to this task, the researcher also investigated learner spontaneous production which was not the direct outcome of teacher elicitation. Internal factors that directly affect learner production (such as form, function, topic, and

wait time of questions) as well as external factors that may indirectly affect learner production (such as the gender of the instructor, the setting, and the context of language teaching and learning) were treated as possible independent variables. After seeking the most facilitative condition for learner production, which was measured by WC and CC of learner utterances in the teacher-led activity (i.e., in the form of teacher questions) and in spontaneous learner production (SP), the researcher sought direct application of the results for teacher training.

A total of 34 hours of recorded classroom interaction with 14 subjects was analyzed. Another two hours of classroom interaction with two subjects were collected to examine the effect of teacher training. The independent variables of form, function, and topic of teacher questions and wait time in post-solicitation were examined for their effect on WC and CC in teacher-lead activity. The study also examined any possible effect of moderator variables (setting, context, and the gender of an instructor) on WC and CC.

The Analysis of Variance (ANOVA) tested the main effect of independent and moderator variables on WC as well as the interaction effect among the variables. Multivariate Analysis of Variance (MANOVA) tested the relationship between a single independent variable and two dependent variables (i.e., WC and CC). The Chi-Square test was employed to examine the

correlation between the independent variables.

The results of the analysis revealed the following:

1. Instructors produced a significant portion of utterances (89% of total WC) in the language classroom.
2. The two genders differed significantly in the use of questions both quantitatively and qualitatively. The male subjects raised more questions than the female subjects. The male subjects used more referential questions than display questions. Moreover, the male subjects asked more personal questions and gave longer WT to the learners than the female subjects.
3. The gender of the instructor had a significant effect on the success rate of elicitation of learner response. The male subjects were more successful in the elicitation of responses than female subjects.
4. The male subjects succeeded in eliciting longer mean WC than female subjects.
5. There was a significant two-way interaction effect on WC between gender and setting and gender and context. Female subjects in academic contexts and in ESL settings were less likely to succeed in eliciting longer production than in non-academic contexts and in EFL settings. On the other hand, male subjects succeeded in eliciting longer production in ESL settings and in academic contexts.
- 6 The learners in this study produced longer and more

- complex utterances in their SP than in their responses to teacher questions in all settings and contexts.
7. The spontaneous WC was longer in the female subject classes than in the male subject classes. The difference between the two genders attained a significant level at the p value of $p < 0.05$.
 8. Three variables (function, topic, and WT) had main effects on WC and CC. In general, referential questions, personal topics, and longer WT(b) and WT(c) succeeded in the elicitation of longer learner responses than display questions, impersonal topics, and shorter WT(a).
 9. There was an interaction effect between the function and the topic of the questions.
 10. Teacher training was effective in increasing the frequency of teacher questions. Both male and female subjects increased the mean WC of learner response elicited by teacher questions although the increase did not attain the statistically significant level of p value. Learner SP increased only in the male subject's class.

Discussion

The discussion to follow concerns some of the major significant findings of this study and their implications and applications to teacher training.

The high percentage (89%) of the average amount of TT in the total WC in the classroom did not seem to support the purpose and instructional goals of language teaching, namely, oral proficiency. The results seemed to indicate that all subjects in this study either unintentionally neglected speaking practice (i.e., social interaction) or intentionally focused on 'listening skills'. The researcher is inclined to believe that the former interpretation of the results is more accurate. This is because the instructors in this study told the researcher that their class focused on 'oral skills' or 'speaking skills'. None of the instructors specifically mentioned 'listening skills'. In retrospect, one of the subjects in the experimental study reported that she thought she spoke only 50% of the time while teaching the treatment group. Not surprisingly though, her teacher talk score (TT) turned out to be 90%, although she was given specific instructions to focus on speaking skills.

Allright and Bailey (1991) report that the typical TT in language instruction is 50% to 75% and that "teacher talk serves as a valuable source of input to language learners." (Allright and Bailey 1991, 148) It goes without saying that teacher input (TT) plays an important role in language teaching. Nevertheless, what was observed in this study was a TT reality (i.e., excessive TT) far in excess of the claims of Allright and Bailey. If the analysis of TT had included

readings from written texts, the percentage of TT across the two genders would have increased even more.

The excessive amount of TT in this study was most noticeable among the female subjects (average of 92%). In particular, three female subjects in the academic context spoke more than 97% of the time (and that does not include reading from the text). In the study of gender differences in spoken language among native speakers, Haas (1979) reports that "the participants in a communication influence quantity of verbalization. In mixed-sex groups, men tend to talk more than women." (Haas 1979, 619) Similar findings are reported by Holmes (1995) and Edelsky (1981). Edelsky reports in her study of turn taking in mixed conversation that although there were no gender differences in the instances of turn taking, when males took their speaking turn, their overall talk was longer than females. Since most of the ESL/EFL classes in this study consisted of learners from both genders (except two classrooms), we would expect, from previous work that the male teachers would be more verbose than the female teachers.

Since the findings of this study proved contrary to findings of Haas, two questions must be raised: (1) can the verbosity of the female subjects be attributed to their reaction to a culture where male learners do not accept a female's authority in the classroom? (2) did the female

subjects consequently make statements rather than questions because of the presence of those male learners?

The answers to these questions are not so easily discovered since the data provided mixed-evidence. A female teacher who taught EFL at a junior college for all women produced the least number of questions during three hours of recording (TT=97%), although she produced fewer utterances in a non-academic context with all female learners (TT=78%). Perhaps, the 'verbosity' of the female subjects in the language classroom reflects their conversational strategies with nonnatives, or, possibly, a lack of effective conversational strategies with adult learners. The female subjects cited above raised the least number of questions in both the academic and non-academic contexts. The low percentage of TT (78%) in the non-academic context was not the result of an increased number of questions; but, rather, it was the result of the learners' spontaneous initiation to participate in the conversation. The evidence shows that, in fact, there is a reduced frequency of teacher questions in particular, in non-academic context. In both contexts, the female subject did not change conversational strategies. What did change was the high contribution in discourse in the non-academic context from learners rather than the teacher's contribution.

Another example result can be taken from the experimental study. By the time the two subjects taught the treatment

group in the experimental study (two months went by after they taught the same class), the only male learner got a job and was not able to attend the ESL class any longer due to his work schedule. As a result, the class no longer had any male students. In this treatment group, the female teacher continued to talk more than the male teacher; in fact, the amount of her teacher talk did not change even after the male learner left.

Throughout the data, the male subjects raised more questions and spoke less (TT=85%) than female subjects. It appeared that the male subjects constantly invited or challenged learners to participate in conversations by posing a lot of questions. At first glance, we might conclude that the low percentage of TT (85%) was again the result of the learners' contribution (i.e., SP) in conversation as it was in the case of female subjects. On closer examination, however, the extent of WC-SP and the number of questions did not support such a speculation. The mean WC-SP in the male subjects' class was significantly lower than that of the females' class. This researcher argues then that the male subjects' low TT was perhaps a direct outcome of their conversational strategies not the result of learner contribution.

This researcher conducted a study of "socially-conditioned foreigner talk discourse (FTD)" with ten ESL teachers (Hironaga 1997). The analysis of ten twenty-minute

classroom interactions indicated that the two genders used different conversational strategies when communication broke down with non-native speakers of English (NNSs). The five male subjects used more restorational work than the five female subjects. Restorational work is the attempt to continue communication using a variety of techniques. Decomposition (a process in which comment on a topic is requested or given by a native speaker when a topic introduced by a wh-question is not responded to or understood by NNSs) and repair work (a strategy to ease the burden of the addressees by supplying less cognitively and linguistically demanding alternatives), with or without 'or-choice', are examples of restorational work. In this study, none of the female subjects used restorational strategies, neither decomposition nor repair work with 'or-choice' questions. The females most often used simple repetition of a question and yes/no questions without 'or-choice' as main strategies for restoring communication break down.

The effort of negotiating meaning with learners and obtaining answers to questions was more frequently observed among the male subjects than the female subjects in the foreigner talk discourse study. It seems that the male subjects did not want to drop their questions when communication broke down. In the same study, the researcher also found that female subjects adjusted their speech to accommodate young ESL

children. They raised more questions with children than with adult learners. The significant number of questions raised by male subjects in FTD and this study may be interpreted as a sign of male dominance according to some researchers (Gass and Varonis 1986, Holmes 1995). However, significant number of questions and the male subjects' tendency of not 'dropping' the topic of questions may be interpreted as a sign of the male subjects' conversational strategies with adult non-native speakers.

Gender differences in conversational strategies were found indirectly in another study. When Wesche and Ready (1985) studied foreigner talk (FT) in the university classroom, they did not pay attention (whether this was intentional or unintentional is not known) to gender differences. They concluded that the different use of FT (i.e., the use of questions and speech adjustments) found between the two subjects in their study was a simple case of individual differences based on the discourse analysis of two professors. The two subjects were a French-speaking professor who taught French as a second language (FSL), and an English-speaking professor who taught English as a second language (ESL). The ESL professor adjusted speech significantly when addressing ESL learners, increased the frequency of questions by more than 100%, and made less statements. By contrast, the FSL professor hardly made any speech adjustments, increased the number of

statements, and even reduced the number of questions when addressing FSL learners.

What is more crucial in their study is that the ESL professor increased more interactional modification (e.g., repair work, repetition, comprehension checks) than the FSL professor. They attributed the differences between the two professors to "individual characteristics of that person's speech." (Wesch and Ready 1985, 104) Had they not written the pronouns such as he/she, or his/her in their study when referring to the two professors, a significant implication of their study could have been easily overlooked.

A careful reading of the article reveals that the two professors were of different genders, a variable not considered by the researchers. The ESL teacher was male and the EFL teacher was female. Both of their names appeared in the notes of the article (Wesch and Ready 1985, 113). Had the gender differences been taken into consideration, the reported results would have taken on a new perspective on the issue of FT. This researcher believes that the results of Wesch and Ready's study are not a coincidence that, when seen through the variable of gender, they align perfectly with the results of this study.

The significant but indirect contribution of the female subjects in this study was that they induced a greater mean WC of spontaneous production. Although the total WC of SP was

less than the male subjects' WC-SP, the crucial point is that the learners' SP was significantly longer when they, in fact, took the opportunity to speak. The term 'indirect' contribution is used to imply that female subjects contribute to spontaneous learner production by providing "more positive socioemotional acts, such as agreeing and showing support." (James and Drakich 1993, 298) In such an environment, learners are less likely to feel inhibited and intimidated from participating in the conversation.

In the language classrooms in this study that focused on speaking and/or oral skill, 50% of learner production elicited by teacher questions was a single word. The total WC elicited by questions was 2074 during 34 hours of recording, which means that there was only an average of 64 words produced by the learners as the result of teacher questions during a one-hour lesson. Even though the male subjects successfully elicited longer WC than the female subjects, the mean WC of 2.7 and the mean clause count of 1.03 by the male subjects are still very miniscule numbers.

Were the learners in this study so low in proficiency that they were unable to produce longer utterances than 2.7 WC? The answer to this question is 'no'. The evidence provided by the results of the learners' spontaneous speech (WC=4.69, CC=1.15) proves otherwise. Interestingly, SP in the survival English class was even longer and more complex than learner

production elicited by teacher questions in the intensive English language institute. Thus, the researcher argues that limited amounts of learner production are the partial result of the types of questions teachers ask and the manner in which they ask them.

The longer mean WC of spontaneous utterances by both male and female subjects may have resulted, in part, from the nature of classroom activities. Throughout the study, both male and female subjects utilized group-work activities to a certain extent. Practically speaking, however, many of the group-work activities did not require learners to use any speaking skills. In fact, the highest mean WC-SP (6.8) was found in the EFL/non-academic classroom with a female teacher who introduced no group work.

Rather than concluding that the longer mean WC-SP was fully the result of the nature of different tasks, the researcher observed that the majority of mean WC-SP in this study was the result of learner initiated speeches in the form of comments and questions. If this is generalizable, it provides evidence that the learners are linguistically more ready than they actually seem to be in teacher-led activities.

'Linguistic readiness' need not to be interpreted as a full authorization for introducing 'autonomous' group work by learners. As limited and small clause counts of interrogative sentences in SP indicated, the learners were not able to make

more than a single clause in interrogatives. There was no instance of interrogatives that had compound or complex sentence structures. It is beyond doubt that the learners possessed limited access to the full repertoire of the sentence structures of the target language.

Perhaps, then, a challenge to language teachers is to help learners construct appropriate interrogatives (i.e., questions) using a variety of tasks. For learners to take initiative in raising questions naturally requires that they pay full attention to the responses of the teacher or other learners. At the same time, learners are able to use their schemata (since they know what the topic of questions are) to facilitate comprehension of input (responses) either by an instructor or fellow students.

While seeking the most effective tasks which require learner contribution in verbal interaction, language teachers need to take once again the issue of questions more seriously. Though it has been suggested that teachers increase the use of questions (Thornbury 1996, Thompson 1997) in order to improve classroom interaction, simple increased frequency of questions may be hazardous to the classroom, as was evidenced by the result of this experimental study. The female subject who succeeded in increasing questions by more than 100% seemed to have deprived the learners of the opportunity for SP. This statement is not intended to denigrate the importance of

teacher questions. What is recommended here is that teachers need not waste time and energy with simply bombarding learners with questions. Teachers need to seek the most effective questions to elicit the best production yet not to the extent that the teacher's questions dominate the floor and deprive the learner opportunity for SP.

The most effective type of questions, as argued in chapter 4, is not limited to referential questions, personal questions or questions with longer WT. The use of teacher questions needs to be understood with respect to at least three major variables (i.e, function, topic, and WT) and their interaction effect. First of all, as reported in chapter 4, the three levels of WT affected learner production significantly.

The effect of WT on learner production was predicted by Rowe (1974, 1986). Rowe reports that the average WT was one second and that the learners were likely to respond to questions with short phrases. Although the study was conducted in a L1 content classroom, Rowe's findings were supported by the result of this study in L2 classrooms. The learners in this study were given a second or less of WT more than 70% of the time, which probably caused the subjects to elicit only a single word as a response (50% of the responses were made by one word) from the learners.

The longer WT facilitated longer learner production and succeeded in elicitation more often than the shorter WT. It appears that a WT of more than a second in post-solicitation allowed time for NNSs to process questions cognitively and to produce in the target language. Longer WT, however, does not always facilitate the success in elicitation, neither does it always guarantee longer production as the results of this study have shown.

Successful elicitation was made possible only when other variables were controlled. As any experienced language teacher would know from his/her teaching experience, questions that are beyond the learners' cognitive ability and questions that do not provoke interest (i.e., questions that learners ignore) may not elicit any production, no matter how long a WT is given. The relationship between learner production and the length of WT was not that simple as evidenced by the results of the analysis in chapter 4 when other variables such as topic and function were taken into consideration. For example, the short WT(a) was, nevertheless, able to elicit a longer mean WC if the question was a display question with a personal topic and the context of learning was not considered. Simply put, learners responded to an instructor's display question instantly when the topic was personal. The discourse analysis of a recorded conversation provided evidence that an instructor must have known the answer already through personal

contact with learners. The examples of evidence is often found in the previous talk between the teachers and learners which was recorded on a tape recorder. Also, teachers themselves said in such cases, "yeah, you told me" or "that's right, you are going."

In such a case, WT did not matter when there was mutual understanding among the instructor and learners. Another example is that a teacher in the EFL academic context raised referential and personal questions frequently but failed in eliciting longer mean WC. In this particular learning context, whether or not display or referential questions were raised did not matter. It appeared that the culture of the country overrode the function of the questions. The learners' indifference to personal topics reflected the cultural values of the country they were living in. The failure to elicit longer learner production was simply due to external factors (i.e., setting). To respond to a personal question or to share personal matters in a formal setting is not a cultural norm in Japan.

While running the analysis using ANOVA, the researcher encountered a problem of missing cells in WT(c), particularly with female subjects. The instances of WT of three seconds and longer by the female subjects occurred only half as often as the instances by male subjects. Not only did the female subjects have shorter WTs, the outcome of elicitation, when

they did give WT(c), was rather unsuccessful (2.4) when compared to the outcome of elicitation by the male subjects (3.6). Again, an external factor, this time gender, held the key to successful elicitation. Although full interpretation of this interesting phenomenon awaits further investigation, this researcher's speculation is that somehow the learners felt a 'weightier' teacher pressure to respond to the questions given by the male subjects, with longer production as a result. This increased pressure on learners to respond may be coupled with the effect of longer silence (longer WT) as the male subjects typically waited longer than the female subjects.

The results of the present study partially substantiated the claim previously made by Brock (1986). The effect of referential questions were indeed significant when no other factors were taken into account. As this researcher speculated, the function of questions alone did not play a central role in learner production. Rather, function, topic, and, oftentimes, WT had an interactive effect on learner production. Brock claimed that display questions resulted in shorter learner production compared to referential questions. Though her claim was supported in this study, when the topic of questions came into play, even display questions resulted in longer learner production when given a personal topic.

The results of this study indicate that the topic of questions in the presence of other factors is a more salient

factor on WC than the function of questions. The following is an excerpt of classroom interaction which was recorded in an ESL/non-academic setting with a male subject. The subject succeeded in eliciting longer utterances with referential questions and a relevant topic (sometimes with longer WT). Moreover, the learner not only responded to the teacher questions but also added extra comments or statements after her response. This particular learner had been living in America for a few months at the time of recording.

(Classroom Excerpt 1)

The instructor has just explained about American's devotion to both work and play.

<t> Nichol, what kind of work do you like to do <wrpb>
 <s> design
 <t> design what ? <wrpa>
 <s> clothes
 <s> I like hotel
 <t> oh, hotel
 <s> yes
 <t> receptionist, have you applied for the work yet?
 <yrpa>
 <s> not
 <t> not much...
 <s> because my daughter has a hotel so I worked eight
 years <spont>
 <t> eight years, in France or here? <yrpa>
 <s> after eight years, I go school design
 <t> you finished, so you don't want to go back to design.
 You want to go back to hotel? <yrpa>
 <s> yes
 <t> any hotel in Dallas.
 <s> I speak no English <spont>
 <t> oh, yes, you do, stop it.
 <s> I don't speak English <spont>
 <t> we'll practice then, you'll get a good hotel job.
 * <spont> spontaneous learner production
 * r=referential, p=personal, a, b =WT

The topic of teacher questions also triggers more SP. Naturally, learners will participate in a conversation when the topic is relevant and interesting. If given a good topic, learners will develop an extensive conversation with not only native speakers but also with other learners using self-initiated questions and statements. The following classroom excerpt from another ESL/non-academic context provides evidence for this claim.

(Classroom Excerpt 2)

The instructor just finished introducing a dialogue between an American couple.

<t> How do you say "thank you" in Japanese <wrpa>
 <s> arigato
 <t> arigato? How long have you studied English <wrpb>
 <s> In Japan, I studied in Junior high school.
 <t> wow, you still have some good skills.
 <s1> do you go to Japan? <spont>
 <t> yes, I will be there in three years
 <s1> so after that you are leaving for China? <spont>
 <t> right
 <s2> then you are going to Japan.<spont>
 <t> yes, I will hang out, yes we'll be there, ah, hopefully. I, twice, I went to China in 1990 and 1992, so I think it can't be any more worse than China. so I think it'll be okay.
 <s3> my brother, he will go to Hongkong <spont>
 <t> really?
 <s3> yes, he, this time with his family together so if
 you don't mind please give your aress <spont>
 <t> address?
 <s> after that I will talk to brother <spont>
 <t> no problem, I'd be glad to
 <s3> could you teach them English ? <laugh> <spont>
 <t> I'd be glad to, I, that's what I'd like to do. I'm looking forward to it. Is he going to be there..?
 <yropa>
 <s3> business

<t> business, okay, yeah, ah, Hongkong is a good place
 for business, have you -<interrupted>
 <s> and food is very nice <spont>
 <t> yes, yes
 <s1> shopping is cheap <spont>
 <t> shop, until you drop

The nature of questions becomes even more complex when the WT variable are included. This development is seen in the results of the experimental study. Although one male subject increased the use of referential questions by 24% and personal topics by 7%, his increase in the elicitation of mean WC was no greater than the female subject who increased referential questions by only 4% and personal topic by 14%. The female subject increased mean WC of learner production by 40% and the male subject increased mean WC by only 11%. This researcher speculates that the difference was created by the different use of longer WT. Discussion to follow will provide supportive evidence for this claim.

The experimental design followed here sought practical application of the research results. The two subjects who taught the same class two months earlier were given a summary of the most effective combination of question type within a specific context (non-academic) and setting (ESL). The comparison of the control groups and the treatment groups with the two subjects indicated that both subjects improved not only in raising more questions but also in the elicitation of longer mean WC. However, a closer examination of the data reveals that the rate of improvement of the two subjects

differed greatly. The male subject increased mean WC of learner production only by 11%, but the female subject increased mean WC by 40% (see figure 19).

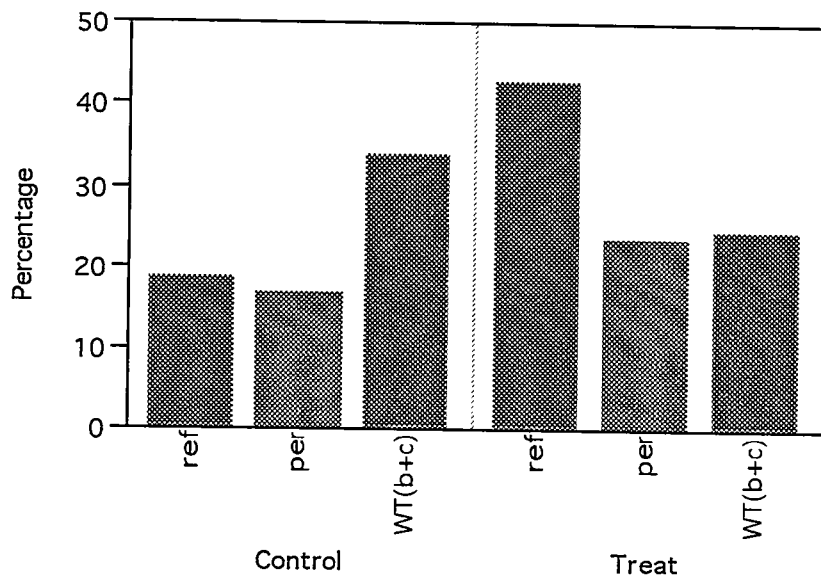


Figure 19. Comparison of two groups (male) (Y axis = percentage that indicates relative use of X variables in the experimental study).

The difference in the increased mean word count can be attributed to the unbalanced increase of the three variables. Although the male subject increased referential questions drastically, he decreased the frequency of a longer WT. As a result the male subject increased WC by only 11%.

In contrast, the increased successful elicitation of longer mean WC by the female subject may be explained by the

fairly balanced increase of all three variables although the increase of frequency of the three variables was relatively small. Equal distribution of increase on the three variables resulted in a 40% increase (see figure 20).

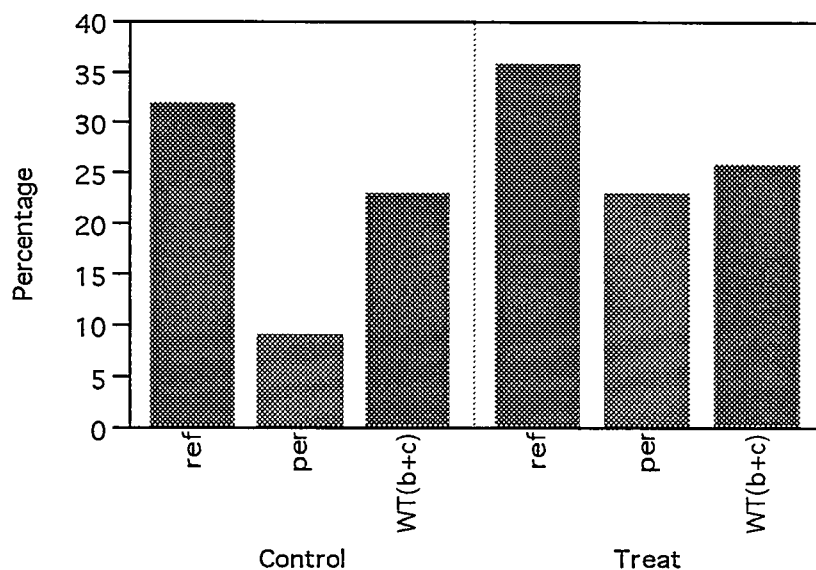


Figure 20. Comparison of two groups (female) (Y axis = percentage that indicates relative use of X variables in the experimental study).

A typical gender-related instructional pattern was found in the initial analysis of the two subjects' classroom interaction. The number of questions that the female subject asked was 22, but the male subject asked 39 questions during one-hour of instruction with the same group of students (with a two-week interval between the two classes).

The female teacher, after having been given initial instruction by the researcher to raise more questions and to produce more meaningful and relevant questions for the learners, seemed to have managed to increase the number of questions. Her effort was rewarded by a longer mean WC. On the contrary, SP in her class was reduced by 62%. It seems that her over-zealousness to improve classroom interaction by using teacher questions created a tightly controlled classroom interaction which did not allow the learners to voluntarily participate in classroom conversation through comments, statements, and questions.

The learners in the male subject class, on the other hand, produced longer SP in the treatment group (5.0 WC-SP) than in the control group (3.2). This increase may be attributed to the teacher's 'contribution' as he revealed with the researcher that he intentionally tried to move away from the front of the classroom in order to facilitate SP. The researcher also noticed that during the class, the male subject paused occasionally between his statements and questions and even physically moved on the side of the students after displaying a picture on an overhead projector.

The implication of these results should encourage researchers to take a more holistic approach to teacher questions. When dealing with adult learners who desire and need to improve oral skill, it is urgent that teachers provide

relevant and interesting topics to the learners in a meaningful way (i.e., genuine question) and allow learners to process their thinking and to facilitate production by increasing WT.

The external factors to teacher questions also need consideration. As has been revealed by statistical analysis, there was a strong interaction effect between moderator variables or external factors and internal factors on learner production. External factors are clearly beyond the control of the language teacher. Nevertheless, careful observations of what is actually happening in the classroom in different settings and contexts with different genders should lead to actual implementation of approaches to teaching. For instance, as has been reported in chapter 4, the two genders seemed to have their own strengths and weaknesses. The male teachers were more successful than the female teachers in the elicitation of mean WC elicited by teacher questions, whereas the female teachers seem to have contributed to longer mean WC-SP (spontaneous production) than the male teachers.

The best way to approach the 'unchangeable' variables is to find a way to compensate for their individual weaknesses. Male subjects may consider introducing more less-stressful or pressure-free tasks to facilitate SP while female teachers would do well to raise more teacher questions and improve their strategies for restorational work along with providing

longer WT. The crucial factor for both genders is to reduce TT and allow more learner participation in conversation.

As this study has indicated, the topic of teacher questions is more crucial than the function of questions. This is particularly true for non-academic contexts. Learners in these contexts desire to acquire communicative skill for everyday survival. These adult learners do not need to discuss what they need not know or something that is irrelevant to them. On the other hand, learners in academic contexts do not mind using language in order just to practice. Their ultimate goal or purpose for learning English allows them to use language pseudo-communicatively and they often understand the teacher's pedagogical strategies of using display questions with impersonal topics.

Conclusions

Verbal interaction is crucial for acquiring oral skills for the adult learner. The researcher has personally observed that there are examples of children who have acquired a second language mostly by listening, particularly at the beginning stages of learning (whether or not it is possible to acquire language only through listening is not the concern of the researcher in this study). It is a common experience of many professors that some adult learners have acquired listening skills by listening only. Many international students seem to

have acquired listening skills while attending universities and graduate schools, but have failed to acquire speaking skills. The latter example is atypical of adult learners in light of this study. The researcher claims that very few adult learners succeed in acquiring both listening and speaking skills unless they are given conversational opportunities.

The classroom is an ideal place where learners are able to participate in conversation without being intimidated by native speakers. There are two opportunities for learners to participate in verbal interaction in the classroom: learner initiated and teacher initiated. Language teachers can create the most facilitative environment for oral production by raising effective types of questions combined with tasks that center around relevant topics for the learner.

A problem in the language classroom that was observed in this study was that there was a great gap between what the learners actually could do (linguistically speaking) and what the instructional procedures expected learners to do. The researcher believes that answering teacher's questions in one or two words should not be what is expected of learners who are able to produce more if the goal of language instruction is to improve oral proficiency.

A good example of this can be found in the comparison of the mean WC in academic and non-academic context. In both

contexts, the mean WC did not greatly differ and, in fact, WC was even slightly higher in the non-academic contexts (2.7) as opposed to the academic contexts (2.4). Also the mean clause count was virtually the same in the two contexts. Of particular importance is the fact that the learners in non-academic ESL class offered for refugees and immigrants produced as long WC as that of the learners in academic/ESL. The learners in non-academic/ESL shared with the researcher personally that they have received almost null education in Cambodia, Vietnam, and Sudan.

Creating group work that will presumably fill the gap between the proficiency level of learners and instructional procedures may be challenging to teachers. At the same time, as was demonstrated in the study, teachers need to scrutinize their teacher talk and teacher questions, and go a step further: they should train themselves to choose the right kind of questions in a particular setting and context (e.g., ESL/EFL or academic/non-academic). The expected outcome of these improvements would be an optimal condition for learner production, which presumably leads to greater oral proficiency in English.

Much has been said about teacher questions in applied linguistics—their usefulness and the way to improve the elicitation of longer learner production. While emphasizing a more holistic approach on teacher questions, the researcher

also urges other researchers to pay attention to learner-initiated questions and their effectiveness in the improvement of comprehension as well as learner production. Subsequently, appropriate teacher questions and the innovative tasks that will encourage learners to participate in interaction using questions may be the key to acquisition of oral skill for adult learners (Day 1986, Duff 1986).

Recommendation for the Future Research

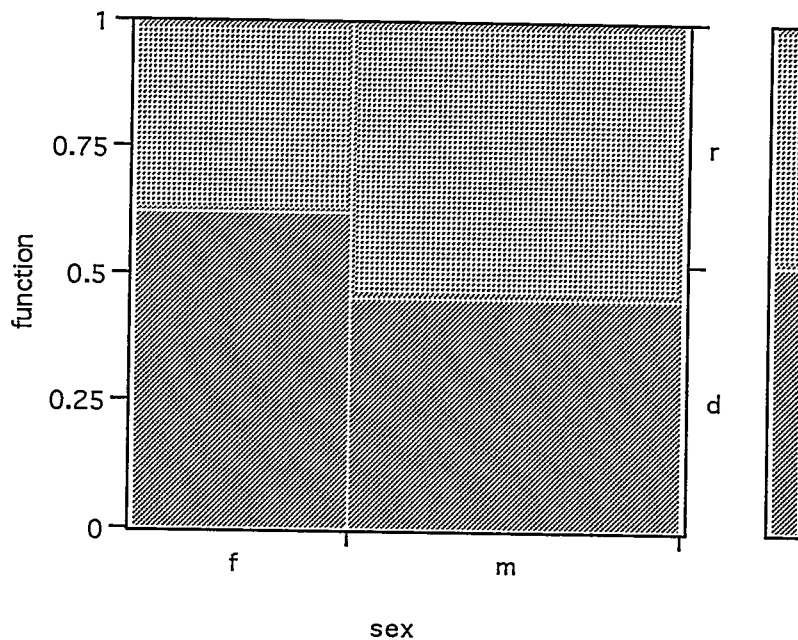
This study reveals a need for examining language classroom interaction with the perspectives of two disciplines in linguistics: sociolinguistics and applied linguistics. This revelation came as a simple by-product of the researcher's previous work on foreigner talk discourse (Hironaga 1997). It is a fairly recognized fact that the practitioners of applied linguistics (language teaching) have been predominantly female, be it in ESL or EFL settings. If the findings of this study are truly generalizable, gender-related interactional patterns become a serious matter for study as it significantly affects classroom interaction, acquisition of oral skills, and, needless to say, the unfairness to the learners. Of particular interest is the different interactional strategies which were more noticeable in academic contexts with adult learners. Further research in gender-related interaction in the classroom is recommended.

APPENDIX A

DISTRIBUTION OF INDEPENDENT VARIABLES AND GENDER

(FUNCTION, TOPIC, AND WAIT TIME)

Distribution of Function by Gender

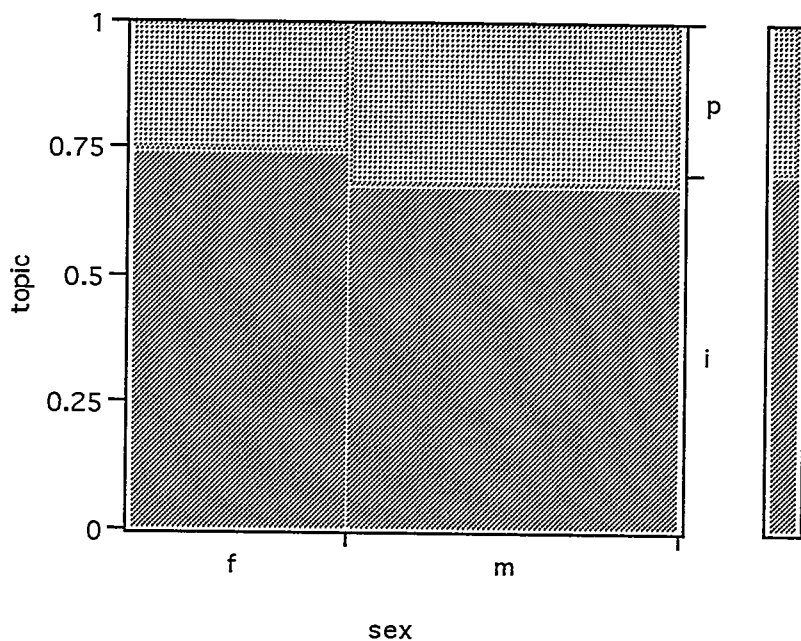


		sex		
		f	m	
function	d	391	439	830
	Col %	62.46	45.54	
r	Count	235	525	760
	Col %	37.54	54.46	
		626	964	1590

The Result of Chi-Square Test

Source	DF	-LogLikelihood	RSquare (U)
Model	1	21.9439	0.0199
Error	1588	1078.6188	
C Total	1589	1100.5626	
Total Count	1590		
Test	ChiSquare	Prob>ChiSq	
Likelihood Ratio	43.888	<.0001	
Pearson	43.550	<.0001	

Distribution of Topic by Gender

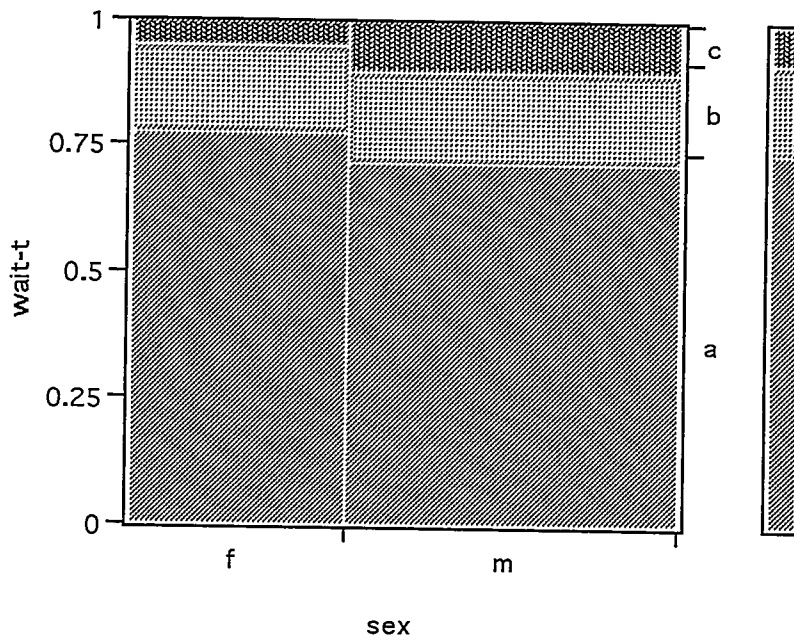


		sex		
		f	m	
topic	Count			
	Col %			
i	Count	465	654	1119
i	Col %	74.28	67.84	
p	Count	161	310	471
p	Col %	25.72	32.16	
	Count	626	964	1590

The Result of Chi-Square Test

Source	DF	-LogLikelihood	RSquare (U)
Model	1	3.81419	0.0039
Error	1588	962.32222	
C Total	1589	966.13641	
Total Count	1590		
Test	ChiSquare	Prob>ChiSq	
Likelihood Ratio	7.628	0.0057	
Pearson	7.548	0.0060	

Distribution of Wait time by Gender



		sex		
		f	m	
wait-t	Count			
	Col %			
a	Count	487	692	1179
a	Col %	77.80	71.78	
b	Count	107	172	279
b	Col %	17.09	17.84	
c	Count	32	100	132
c	Col %	5.11	10.37	
	Count	626	964	1590

The Result of Chi-Square Test

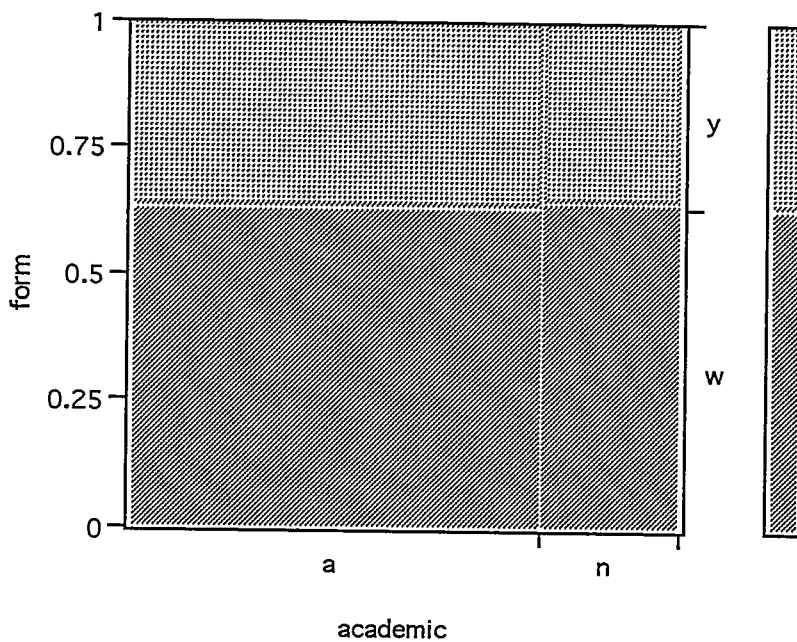
Source	DF	-LogLikelihood	RSquare (U)
Model	2	7.7397	0.0066
Error	1586	1158.9049	
C Total	1588	1166.6446	
Total Count	1590		
Test	ChiSquare	Prob>ChiSq	
Likelihood Ratio	15.479	0.0004	
Pearson	14.628	0.0007	

APPENDIX B

DISTRIBUTION OF INDEPENDENT VARIABLES AND CONTEXT

(FORM, FUNCTION, TOPIC, AND WAIT TIME)

Distribution of Form by Context
(Academic x Non-academic)



academic

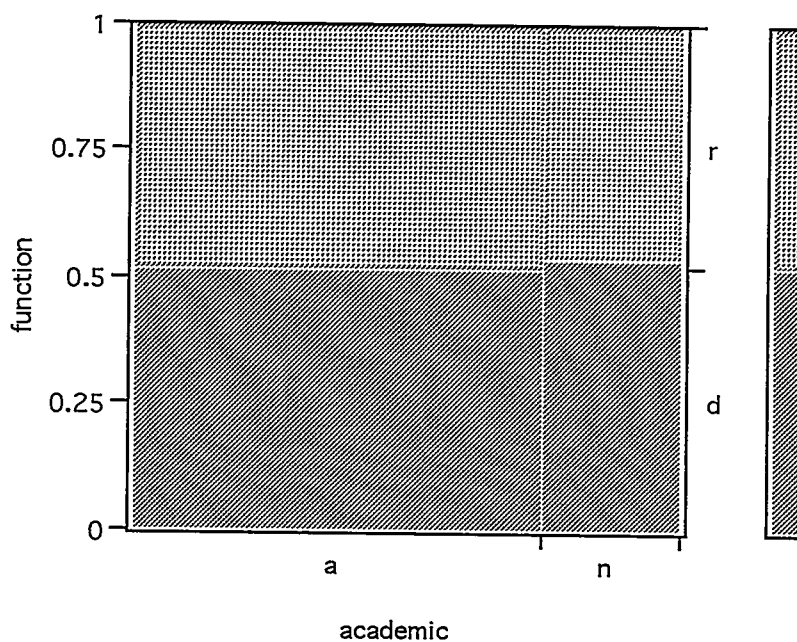
Count	a	n	
Col %			
w	757 63.40	255 64.39	1012
y	437 36.60	141 35.61	578
	1194	396	1590

The Result of Chi-Square Test

Source	DF	-LogLikelihood	RSquare (U)
Model	1	0.0636	0.0001
Error	1588	1042.0507	
C Total	1589	1042.1142	
Total Count	1590		

Test	ChiSquare	Prob>ChiSq
Likelihood Ratio	0.127	0.7214
Pearson	0.127	0.7217

Distribution of Function by Context
(Academic x Non-academic)

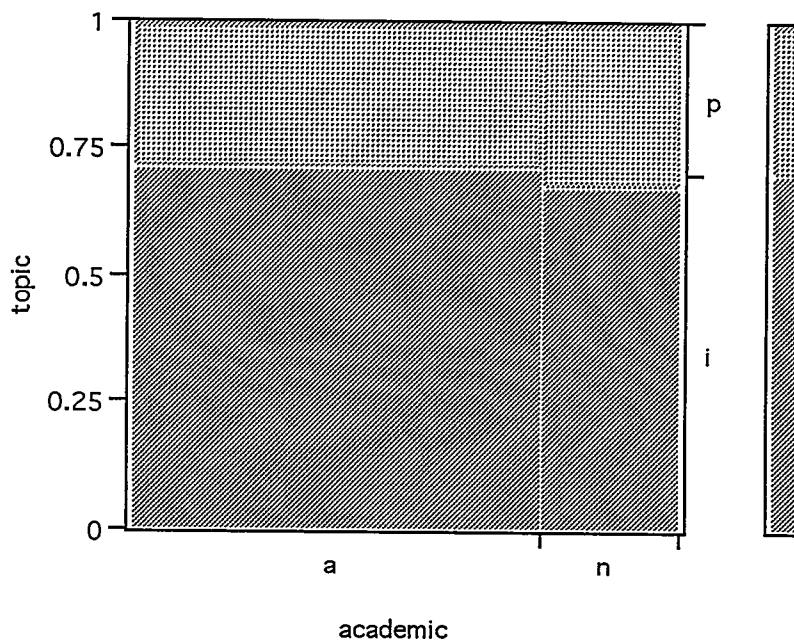


academic			
Count	a	n	
Col %			
d	617	213	830
	51.68	53.79	
r	577	183	760
	48.32	46.21	
	1194	396	1590

The Result of Chi-Square Test

Source	DF	-LogLikelihood	RSquare (U)
Model	1	0.2662	0.0002
Error	1588	1100.2964	
C Total	1589	1100.5626	
Total Count	1590		
Test	ChiSquare	Prob>ChiSq	
Likelihood Ratio	0.532	0.4656	
Pearson	0.532	0.4658	

Distribution of Topic by context
(Academic x Non-academic)

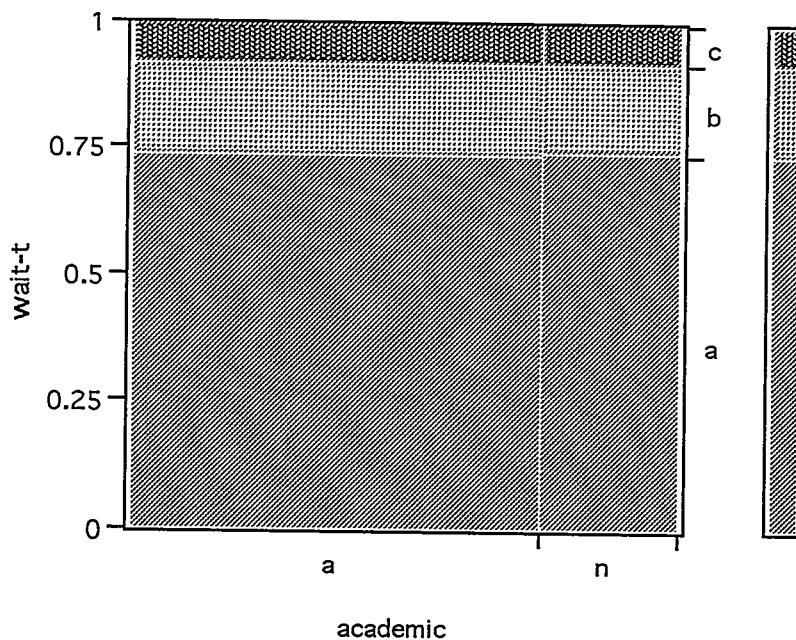


		academic		
		a	n	
Count	Col %			
i		852	267	1119
		71.36	67.42	
p		342	129	471
		28.64	32.58	
		1194	396	1590

The Result of Chi-Square Test

Source	DF	-LogLikelihood	RSquare (U)
Model	1	1.08980	0.0011
Error	1588	965.04661	
C Total	1589	966.13641	
Total Count	1590		
Test	ChiSquare	Prob>ChiSq	
Likelihood Ratio	2.180	0.1398	
Pearson	2.206	0.1375	

Distributin of Wait time by Context
(Academic x Non-academic)



academic

Count	a	n	
Col %			
a	884	295	1179
	74.04	74.49	
b	211	68	279
	17.67	17.17	
c	99	33	132
	8.29	8.33	
	1194	396	1590

The Result of Chi-Square Test

Source	DF	-LogLikelihood	RSquare (U)
Model	2	0.0258	0.0000
Error	1586	1166.6188	
C Total	1588	1166.6446	
Total Count	1590		

Test	ChiSquare	Prob>ChiSq
Likelihood Ratio	0.052	0.9745
Pearson	0.051	0.9746

APPENDIX C

SUCCESS RATE OF ELICITATION

Success Rate of Elicitation

Teacher Questions (all)

by

form, function, topic, wait-t

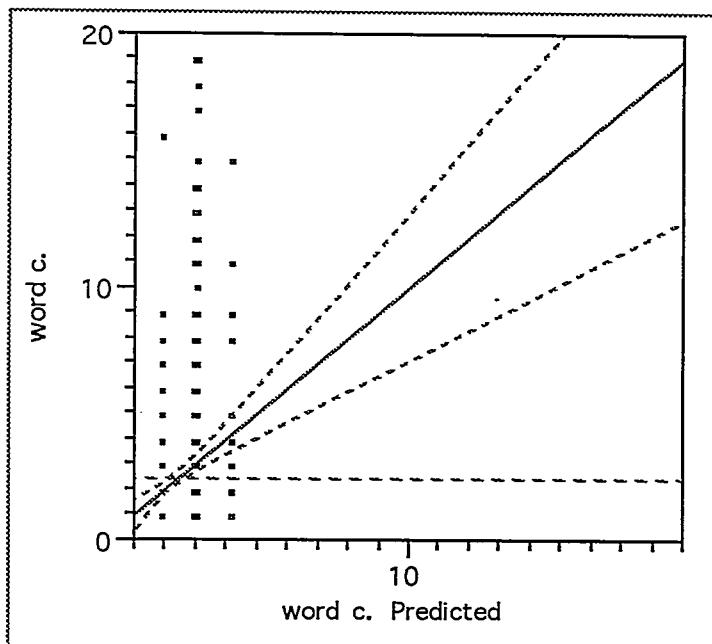
form	function	topic	WT	N Rows	N Missing	Success%
w	d	i	a	442	196	55.6%
w	d	i	b	143	69	51.7%
w	d	i	c	80	41	48.8%
w	d	p	a	19	10	47.3%
w	d	p	b	2	0	100%
w	r	i	a	107	44	58.9%
w	r	i	b	15	5	66.7%
w	r	i	c	13	4	69.2%
w	r	p	a	139	61	56.1%
w	r	p	b	32	12	62.5%
w	r	p	c	20	8	60.0%
y	d	i	a	91	51	43.9%
y	d	i	b	20	10	50.0%
y	d	i	c	5	3	40.0%
y	d	p	a	20	12	40.0%
y	d	p	b	8	3	62.5%
y	r	i	a	172	103	40.1%
y	r	i	b	24	16	33.3%
y	r	i	c	7	4	42.8%
y	r	p	a	189	88	53.4%
y	r	p	b	35	16	54.3%
y	r	p	c	7	7	0.00%

APPENDIX D

INTERACTION EFFECT

(TOPIC X FUNCTION)

The Result of Two-way Interaction
(Topic and Function)



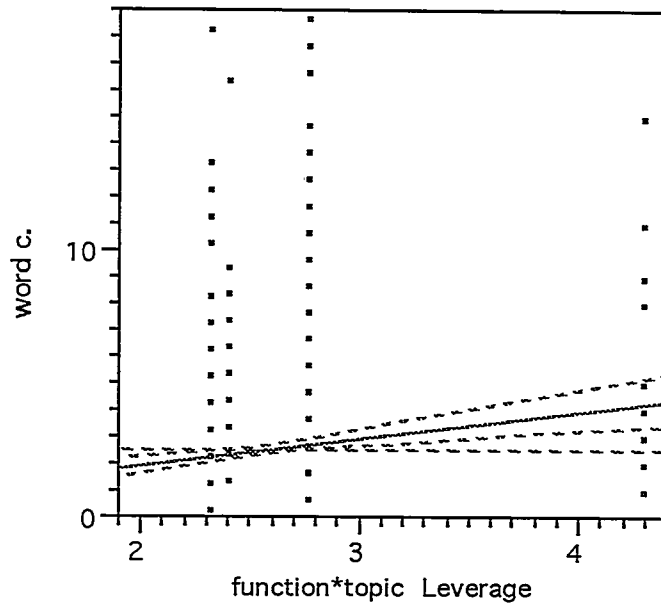
Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	3	321.4113	107.137	17.5670
Error	823	5019.2877	6.099	Prob>F
C Total	826	5340.6989		<.0001

Effect Test

Source	Nparm	DF	Sum of Squares	F Ratio	Prob>F
function	1	1	0.05843	0.0096	0.9221
topic	1	1	92.60807	15.1847	0.0001
function*topic	1	1	100.48694	16.4766	<.0001

Interaction effect on Word Count
(Topic x Function)



Effect Test

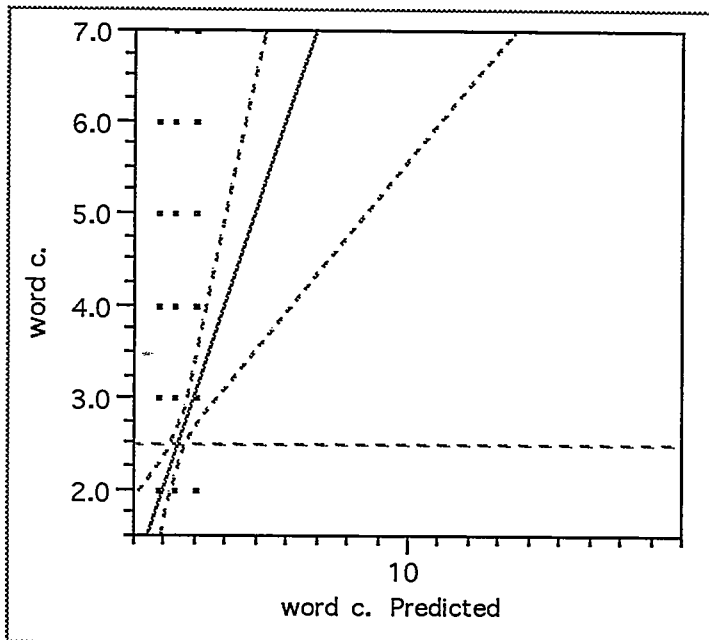
Sum of Squares	F Ratio	DF	Prob>F
100.48694	16.4766	1	<.0001

APPENDIX E

INTERACTION EFFECT

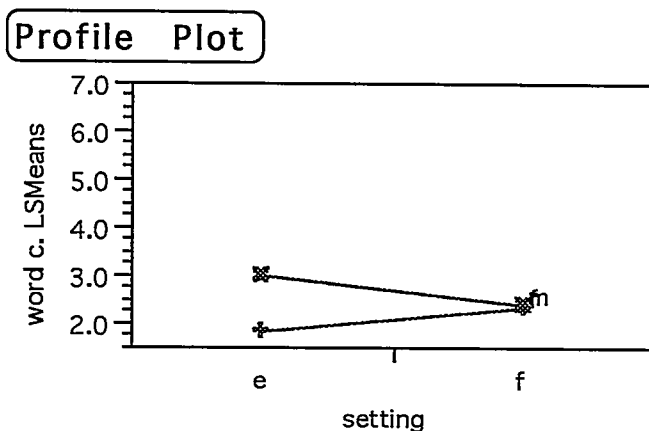
(GENDER X SETTING, GENDER X CONTEXT)

WC Predicted by Gender X Setting



Analysis of Variance				
Source	DF	Sum of Squares	Mean Square	F Ratio
Model	3	140.9221	46.9740	7.4349
Error	823	5199.7769	6.3181	Prob>F
C Total	826	5340.6989		<.0001

Profile Plot of Gender x Setting

The Summary of Two-way Analysis of Variance
(Gender x Setting continued)**Summary of Fit**

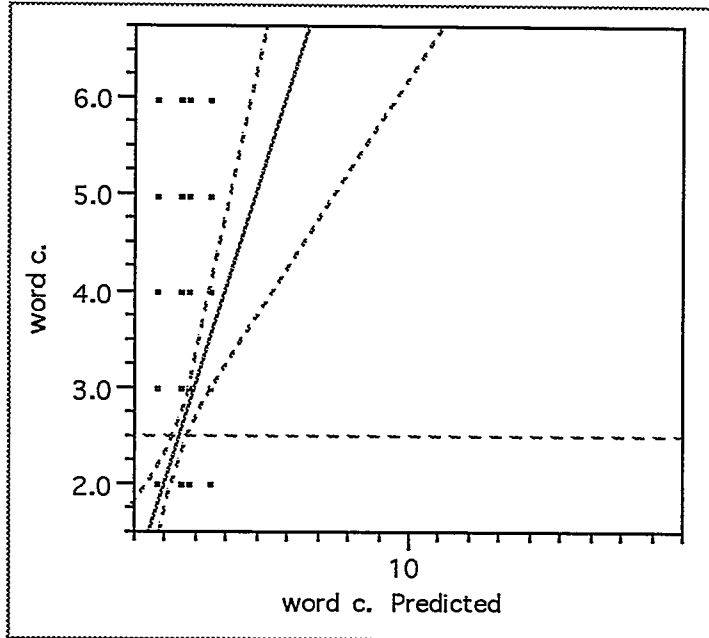
RSquare	0.026386
RSquare Adj	0.022837
Root Mean Square Error	2.513578
Mean of Response	2.50786
Observations (or Sum Wgts)	827

Parameter Estimates**Effect Test**

Source	Nparm	DF	Sum of Squares	F Ratio	Prob>F
sex	1	1	60.888846	9.6372	0.0020
setting	1	1	0.450782	0.0713	0.7895
sex*setting	1	1	57.055897	9.0306	0.0027

The Summary of Two-way Analysis of Variance
(Gender x Context)

Whole-Model Test



Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	3	192.5893	64.1964	10.2627
Error	823	5148.1096	6.2553	Prob>F
C Total	826	5340.6989		<.0001

Summary of Fit

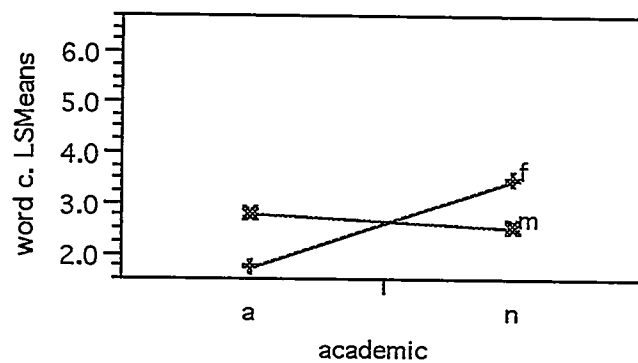
RSquare	0.036061
RSquare Adj	0.032547
Root Mean Square Error	2.501059
Mean of Response	2.50786
Observations (or Sum Wgts)	827

Effect Test

Source	Nparm	DF	Sum of Squares	F Ratio	Prob>F
sex	1	1	0.38937	0.0622	0.8030
academic	1	1	66.63601	10.6527	0.0011
sex*academic	1	1	114.95972	18.3780	<.0001

Gender x Context

Profile Plot



Least Squares Means

Level	Least Sq Mean	Std Error
f,a	1.758293839	0.1721800166
f,n	3.469387755	0.3572941726
m,a	2.786301370	0.1309114221
m,n	2.554455446	0.1759739118

Effect Test

Sum of Squares	F Ratio	DF	Prob>F
114.95972	18.3780	1	<.0001

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