REQUESTS BY A MAINSTREAMED Student WHO IS HEARING IMPAIRED WHEN INTERACTING WITH PEERS

By

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ABSTRACT

The purpose of this study was to test the applicability of the Effective Speaker Model (Wilkinson & Calculator, 1982) in assessing the nature of requests and responses of a 10-year-old student who is hearing impaired when interacting with peers in the regular classroom during student-directed activities. Requests are considered to be an important aspect of interaction in the classroom as receiving appropriate responses to requests has been shown to influence a student both academically and socially.

The observational data were obtained using ethnographic research strategies. The requests were coded using an adapted system to that developed by Wilkinson and Calculator (1982) as being on-task, sincere, direct, directed to a designated listener, revised when initially unsuccessful, clarification requested, and whether or not appropriate responses were received. The frequency percentage for each of the characteristics and appropriate responses were calculated, and a profile created. Specific information from field notes and participant interviews were used to describe and substantiate the configuration.

The coding and description were found to yield useful information regarding the characteristics of a student’s requests and responses to peers. Along with the characteristics outlined in the model, requests for clarification were found to be an additional characteristic to be included when considering the requests and responses of a student who is hearing impaired. In this case study, the student received appropriate responses to his requests 64% of the time after an initial request or after a revision. His requests were found to be generally on-task, direct, and designated to a listener. However, when the student’s requests were not sincere, he did not receive appropriate responses from his peers. He revised his requests in
various ways when they were initially unsuccessful although he did not always persist with revisions. Finally, the student was found to request clarification in a number of ways when persisting with understanding a peer response.

The information provided by the model would lead to direct intervention and instruction for increasing the likelihood that the student will receive appropriate responses to requests. This research would seem to have implications for teachers and students who are hearing impaired in all educational settings.
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"A positive approach to the conversational difficulties faced by the hearing impaired populations seems to lie in a combination of new research techniques that analyze the conversation as it occurs and involve strategic planning on the part of professionals" (Griffith, Johnson, & Dastoli, 1985, p. 174). These words focus on a growing concern of teachers providing support to mainstreamed students who are hearing impaired - the assessment and instruction for conversation skills so that a student may be perceived as a competent and desirable partner when interacting with his/her peers in the regular classroom.

An ever-increasing amount of literature describes the communication skills required of children to be successful in the classroom (Keenan, 1974; Ripich & Spinelli, 1985a; Simon, 1985; Wilkinson, 1982). One such focus has been on students' use of requests to secure action and information from their peers in student-directed activities (Wilkinson & Calculator, 1982). This is important to students in the classroom because effective requests benefit the students academically if the appropriate responses to their requests help them learn more about the content of the lesson or assignment (Webb, 1982a, 1982b). In addition, Cooper, Marquis, and Ayers-Lopez (1982) found that elementary school children who learn are those who can ask, and the children who give information are likely to be the ones who receive it. A student who is hearing impaired should be able to request information and action from his/her peers and respond appropriately to requests from peers in order to enhance not only information-gathering abilities but interpersonal skills as well. This seems increasingly important as students are required more and more to collaborate during cooperative learning activities in classrooms (Johnson, Johnson, & Holubec, 1986).
Students who are hearing impaired and who have language skills that closely approximate the communication skills of their normally hearing peers are probably the ones who will function best in a regular class environment (Weiss, 1986). These students must be able to understand the content material presented in the classroom in order to follow the teacher's lessons and to participate in classroom discussions; they must be able to understand questions and produce intelligible and well-formulated responses; they must be able to communicate effectively, in and out of the classroom, both with teachers and other children (Ross, Brackett, & Maxon, 1982). Unfortunately, research into classroom discourse skills of hearing impaired students indicates that these students do not always have a command of the rules and skills involved (Brackett, 1983). Because the student who is hearing impaired responds poorly to some conversations, s/he is perceived as perhaps a disinterested passive communicator and consequently is not a highly desirable partner for interaction (Ripich & Spinelli, 1985a). As a result, the student who is hearing impaired is missing out on peer interaction in the regular classroom. Ross, Brackett, and Maxon (1982) support this, stating that how the child interacts with his peers, whether he asks questions of his peers or seems willing to stay in the dark and withdraw, mentally if not physically, from the situation, is an important factor when assessing a student in a mainstreamed setting.

The number of students who are hearing impaired being educated in regular classrooms has been increasing in the United States since the implementation of the federal Education of the Handicapped Act, Public Law 94-142, mandating that children be educated in the least restrictive environment (Baker, 1980). It has been estimated that less than 40 percent of all students who are hearing impaired are being educated in centralized schools in the United States today compared to more than 60 percent during the 1960's
(Israelite & Hammermeister, 1986). It is likely that a similar change in distribution of the population of students who are hearing impaired has also occurred in Canada. In British Columbia, for example, the Ministry of Education formally adopted a mandate in 1979 that encouraged local school districts to provide programs for children with hearing impairments. As a result, there has been an increase in the number of mainstreamed students and, hence, the number of itinerant programs providing support to these students being educated in the mainstream. In 1977 there were only five school districts in the province providing itinerant services (Personal communication, Henry Minto, Manager of Hearing Impaired and Speech Programs, B.C. Ministry of Education), whereas in 1989 there are forty-one school districts providing itinerant support to students in the mainstream (Directory of Teachers of the Hearing Impaired: 1988/1989). As the numbers of students who are hearing impaired in the mainstream increase, teachers providing support to these students need appropriate measures to assess classroom conversation skills of their students in order to plan programs to help students become skilled and confident conversation partners.

There is increasing interest in the use of ethnographic techniques in educational settings, using participant observation to study aspects of interaction as it occurs (Green & Wallat, 1981; Ripich & Spinelli, 1985b; Wilson, 1977). These techniques provide a tool that teachers of students who are hearing impaired could readily use to become teacher/researchers in the classroom assessing and describing the nature of specific aspects of conversations with peers. The information gained would enable the teachers to plan specific and purposeful instruction for students to develop necessary conversation skills.
Purpose

The purpose of this study is to test an approach for assessing students who are hearing impaired requesting information and action from their peers in the regular classroom.

This information would seem relevant to itinerant teachers who are providing support to students who are hearing impaired in the regular classroom as it could assist teachers in: a) developing an awareness of some specific characteristics of requests and responses students need to be skilled and cooperative conversation partners, b) realizing the academic and social importance of these skills, c) assessing the communication skills of their students not only quantitatively but qualitatively through purposeful observation in the classroom, and d) gaining specific information for purposeful and direct intervention.

Operational Definitions

For the purpose of this study, the following terminology and definitions will be used:

**Student who is hearing impaired** - refers to a student who has any degree of hearing loss, whether the loss is mild, moderate, severe or profound.

**Mainstreamed student** - refers to a student who is being educated in the regular classroom setting. The present focus will also be on students who use speech as their preferred means of communication.

**Language** - refers to an organized set of symbolic relationships, mutually agreed upon by a speech community to represent experience and facilitate communication (Kretschmer & Kretschmer, 1978; p.1).
Speech - refers to the audible production of language, the result of manipulation of the vocal tract and oral musculature (Kretschmer & Kretschmer, 1978; p.1).

Communication - refers to the framework through which language is utilized to exchange information (Kretschmer & Kretschmer, 1978; p.1).

Pragmatics - Through mastery of the interactions of phonological, syntactic, semantic, and pragmatic components of language, individuals are capable of producing and understanding sentences. Phonological aspects are concerned with the production of language through the sound system, syntax refers to word order and word choice, semantics concerns the meanings intended by the use of particular syntactic forms and vocabulary, and pragmatics involves the intended uses of language in various contexts (Kretschmer & Kretschmer, 1978).

Participant observation - refers to a combination of data collecting techniques to systematically record data, classify, and report findings. The four possible types of participant observation are: complete participation, participant-as-observer, observer-as-participant, or complete observer (Borg & Gall, 1983; Sevigny, 1981).
CHAPTER II
REVIEW OF THE LITERATURE

Communication: The conversation dyad

Communication is a vehicle for social interaction. As Hoskins (1989) defines interaction, inter - refers to the mutual focus of a speaker and a listener; and active - refers to an active participation where both speaker and listener have responsibilities for knowing and using the appropriate conversation moves or rules. She states further that conversation is the smallest operative unit involving at least two people, whereby a speaker triggers something in the listener such that the listener desires to continue the conversation. The listener in turn has a responsibility to respond to the speaker sharing that the message was accepted and understood.

When describing the communicative event, Prutting (1982) divides the process into the three areas that operate together in the flow of discourse: social and cognitive knowledge, linguistic rules, and pragmatic rules. (Figure 1).

Prutting and Kirchner (1983) feel that the speaker/listener dyad should be considered the smallest unit of measurement for discourse. They feel that a conversation is
a sequence of exchanges between two people where the focus is neither on the speaker nor on the listener but on what happens between them.

Carrow-Woolfolk and Lynch (1982) propose a detailed interactive model of communication which has four dimensions: units of the linguistic code, cognitive units of language content, unit of language performance, and units of communication environment (Figure 2). Units of the linguistic code refers to the rules of phonology, morphology, syntax, semantics, and pragmatics that a child internalizes and then uses when communicating. The cognitive units of language content refers to the process of

Figure 2: The integrative model of language (Adapted from Carrow-Woolfolk & Lynch, 1982).
internalizing those rules, from that of initial sensation through perception, memory, conceptualization, representation, and finally, symbolization. The performance of language describes the sequence of events from speech perception, when an utterance is received by the listener, through comprehension, when the message is understood, to language formulation and speaking, when the message is responded to as the listener becomes the speaker. The final dimension in the model is the communication environment which refers to the internal and external factors that affect communication.

Within this last decade, the interactive model of communication views conversation as involving a minimum of two people as the operational unit, using their knowledge of linguistic, cognitive, and pragmatic rules to achieve successful communication. The detail in Carrow-Woolfolk and Lynch’s model enables one to recognize factors which might influence this process when one person is hearing impaired.

Factors that might influence conversation when one partner is hearing impaired

When one of the people in a conversation is hearing impaired, there are factors to consider unique to the situation. In order for one to experience ease of communication, Sanders (1985) has outlined a number of factors that must be met: 1) all the ingredients of speech must be present; 2) the sound must be comfortably loud; 3) there must be a minimal amount of background noise; 4) the language must be familiar; and 5) the content must be understandable.

For a listener who is hearing impaired, the first three factors outlined above regarding the perception of speech cannot be fully met, for hearing impairment reduces the overall loudness of speech and presents a distorted pattern of speech (Boothroyd, 1978; Sanders, 1985). This loss of acoustic cues can be partly overcome by increasing the
speech intensity of the speaker through reducing the distance between the people, using appropriate amplification, and, in the case of children in a classroom, by using auditory training equipment (Boothroyd, 1978). However, even when amplification is available, the listener who has a sensorineural hearing loss will still receive a limited or distorted acoustic signal and the extent of difficulties in understanding the spoken message of another person will increase with the severity of the hearing impairment (Sanders, 1985). Intonational cues may not be accessible to the listener who is hearing impaired, creating a gap in the message received. Variation in meaning (sarcasm or humour) or specific information in a request for clarification are often conveyed through a change in intonation (Oleksiuk-Velez & Walter, 1980). This subtle information may not be readily available to the listener who is hearing impaired and hence may affect the comprehension of the message received.

The acoustics of a room affect everyone’s speech reception (Borrild, 1978). In fact, people vary in their ability to tolerate competing noise when they are trying to listen to speech (Berg, 1986). A good acoustic environment is defined as a situation in which the noise that is irrelevant is suppressed as far as possible so that useful speech sounds are clearly and easily distinguishable. Borrild (1978) defines noise as sound generated by activities adjacent to the room or within the same room, and excessive reverberation because of limited acoustic treatment of the room surfaces. Competing noises may minimally interfere with the communication of a person who has normal hearing and will definitely affect the ability of a person who is hearing impaired to comprehend the spoken message (Ross & Giolas, 1978).

In addition to amplification, the auditory information may be complemented through speechreading. However, ease of speechreading will vary as the rate, intensity, and clarity
of speech varies from person to person (Kricos & Lesner, 1985). In order to get the most out of visual cues, good speechreading conditions require that adequate light be on the face of the speaker and out of the speechreader’s eyes, the speaker be facing the listener who is hearing impaired, the speaker’s hands be away from the face so lips aren’t obscured, and a distance of not more than one metre be maintained between speaker and listener with forty-five centimeters being the ideal listening and speechreading distance for the person who is hearing impaired (Borrild, 1978; Northcott, 1972).

Referring to Carrow-Woolfolk and Lynch’s model (1982) then, since auditory sensation for a person who is hearing impaired is limited or distorted, the cognitive units of language content, auditory memory, perception, conceptualization and symbolization are affected. Further to this, the process of internalizing the rules of the linguistic code and the classification and organization of that information is also affected by hearing impairment. As this cognitive and linguistic knowledge is used when comprehending and producing language, the effect on these areas is reflected in the person’s language performance. This means that for the person who is hearing impaired, the fourth and fifth factors outlined by Sanders, that language must be familiar and the content understandable, may not be readily met.

With regards to production of language, the intelligibility of the speech of the speaker who is hearing impaired would further influence the process of communication. The hearing listener expects to receive intonation cues from the speaker to help in understanding the message. Often naive hearing listeners experience great difficulty in receiving messages from the speaker who is hearing impaired because the message lacks some of these cues (Oleksiuk-Velez & Walter, 1980). Hence, the more familiar the hearing listener is with the speech and
language patterns of the person who is hearing impaired the easier the communication process. On the other hand, research shows that a person who is hearing impaired will find different talkers more or less difficult to understand depending on the talker's speech intelligibility (Kricos & Lesner, 1985).

In summary, when considering conversation as the framework within which the various components of communication might be considered, one must also take into account those factors that might be influencing the conversation, especially if one of the partners is hearing impaired.

One aspect of a conversation, pragmatics, will now be discussed.

**Pragmatics: An aspect of conversation**

Prutting (1982) recounts the story of a group of speech-language pathologists who were asked to define pragmatics. It seems that after some deliberation they responded that pragmatics was everything they used to throw out when they analyzed language. She continues by stating that the theoretical focus of important aspects and elements of language has changed through the years. During the 1960's, the theoretical focus was on the acquisition of language. During the next decade of the 1970's, both the social and cognitive factors influencing the child's acquisition of the rules of grammar were most important. It has been during the 1980's, that the area of pragmatics has been defined and addressed as the different contexts in which communication occurs. Pragmatics can be considered as one component of communication within which there are several specific aspects. Kretschmer and Kretschmer (1978) define pragmatics as concerning the role of context in the execution and comprehension of sentences, emphasizing that the form and the content of language cannot be properly understood outside the context of communication.
Within pragmatics, various categories of language use have been outlined by several authors. Kretschmer and Kretschmer (1978) outline five major components: speech acts, informational organization, sentence utilization, presuppositions, and conversational constraints. Prutting (1982) states that within the concept of pragmatics one might focus on four different contexts: prerequisite cognitive and social context; functions of language in context; conversation rules in different contexts; and social context and stylistic variations. Roth and Spekman (1984) outline three major aspects of the use of language including: the functions of language, or why people speak; the way in which people make decisions about the language form they will use to reach their communicative goal; and the social organization of their conversation. Similarly, Lund and Duchan (1983) suggest that pragmatics can be organized into four areas of pragmatics including: situational context, intentional context, listener context, and linguistic context. They present a clear explanation of each context. The situational context refers to the physical setting; the participant’s sense of what the interaction is about; the awareness of a beginning, middle, and end of the event; and the topic of the interaction, including topic change, and staying on topic. The intentional context refers to the speaker’s intention or the function of a particular utterance. The listener context takes into account that a speaker must consider the perspective of the listener, including: the physical perspective, their background knowledge, and the status of the listener. The linguistic context refers to the person’s ability to produce appropriate language forms.

With regards to the size of the unit of discourse, Prutting (1982) states that depending on the topic, the units considered to mark off discourse could be turns, sequences, exchanges, interchanges, or episodes. Lund and Duchan (1983) view conversation as progressing from
preverbal turns, to single conversational turns, and finally to three-turn exchanges. No matter what the labels for the various categories and aspects of pragmatics, or the length of discourse units considered, the common emphasis is the importance of considering the use of language and the context in which the conversation occurs.

Classroom conversation

During the last decade, classrooms have been considered a communicative context within which one might examine conversation (Erickson, 1982; Green & Wallat, 1981; Gumperz, 1981). Classroom conversation involves many kinds of interaction: teacher-class discourse, teacher-student discourse, and student-student discourse (Bloome & Knott, 1985). Teacher-class discourse occurs when the teacher talks to the whole class, teacher-student discourse involves interaction with a single student, while student-student discourse refers to discourse between individual students or between a student and the class.

Student-student discourse often involves conversations when students talk together during seatwork. This peer interaction most often occurs in student-directed instructional groups of mathematics and reading. However, opportunity for interaction can occur in all content areas if teachers use cooperative learning strategies in the classroom (Johnson & Johnson, 1985, 1986; Johnson, Johnson, & Holubec, 1986). Planned cooperative learning lessons require students to work collaboratively in small groups, encouraging and facilitating each others' efforts to learn the assigned material (Johnson et al., 1986). Several authors agree that there is little information on what happens in small groups when the teacher is not present (Webb, 1982a, 1982b; Wilkinson, 1984).

When considering children communicating with their peers, some authors have specifically examined the nature of requests and responses (Brinton & Fujiki, 1982; Ervin-Tripp,

However, Wilkinson and her colleagues have reviewed the literature and further examined requests and responses among peers in a series of studies involving elementary school children in student-directed instructional activities in mathematics and reading (Wilkinson & Calculator, 1982; Wilkinson & Spinelli, 1983; Wilkinson, 1984; Wilkinson et al., 1986). These authors have examined both linguistic form and function of requests of students. With regards to the various pragmatic contexts as outlined by Prutting (1982), and Lund and Duchan (1983), these studies by Wilkinson and her colleagues have focused on a specific social context - the classroom; a specific context within that social context - during student-directed activities; a specific listener context - student-student interaction; and a specific intentional context - requests and responses. As a result of their research, they have outlined the Effective Speaker Model.

*Effective Speaker Model: Requesting and responding to peers*

Effective speakers are persons who use their knowledge of language forms, functions, and contexts to achieve their goals in interaction, such as obtaining materials and
securing informative responses to their requests for information (Wilkinson & Calculator, 1982). With reference to the conversation as the basic operative unit as outlined by Prutting (1982) and Hoskins (1989), the request-response sequence between two people reflects a cooperative effort between the speaker and the listener each recognizing that there is a common goal resulting in the speaker obtaining the desired response to his/her request. Effective speakers are successful communicators as they have their listeners recognize and comply with their intentions. Wilkinson and her colleagues feel that there are certain characteristics of a request that will increase the likelihood that an appropriate response will be obtained.

Characteristics of effective requests and responses. Characteristics of effective requests and responses to peers include: direct form, designated to one particular listener, sincere, on-task, and revised if there is an initially unsuccessful request. If speakers want clarity in their communication, they can ensure this through clearly and directly expressing themselves; making direct requests for action or information. A student must specifically designate another student, either verbally or non-verbally, to be the one to whom the request is given. The demands of face-to-face interaction require speakers to be sincere in their requests. Labov and Fanshel (1977) state that four conditions must be met for a request to be sincere: a) there is a need for the request, b) the listener has the ability to fulfill the request, c) the listener has an obligation to do so, and d) the speaker has a right to request the action or information. The speaker has an obligation to make the request clear and the listener then has an obligation to respond. The request must also be on-task and related to the academic content or procedures and materials of the seatwork. Finally, an initial request is revised by persisting and providing additional information to the same
listener who had not responded appropriately. When revising a request if a desired response is not given, the authors feel that a student who is an effective speaker will be able to successfully revise his/her requests.

Other studies support some of these characteristics. Both Garvey (1975) and Ervin-Tripp (1976) note that direct forms are common in a request-response exchange between young children. Spinelli and Ripich (1985a) and Prinz and Ferrier (1983) both state that there is an increased use of indirect request forms with age.

Mitchell-Kernan and Kernan (1977) report that in child-child dyads requests are not always honored, forcing peers to revise requests. However, they state that even with revision, compliance is not guaranteed as children are on guard against challenges to their status and to their rights.

Regarding persisting with obtaining an appropriate response to a request, Fey and Leonard (1983) state that a speaker must be able to modify and paraphrase their question another way if needed.

Fey, Warr-Leeper, Webber, and Disher (1988) state that if the response is not understood, the listener then has an obligation to request clarification. These authors outline four different kinds of requests for clarification that students must learn to both recognize as a speaker and use as a listener, including: a neutral request for repetition (what?), a request for confirmation (1950?), a specific request for specification (What did he do?), or a specific request for repetition (That man what?). In their studies of requests for clarification with children who had a learning disability, Donahue, Pearl, and Bryan (1980) note that some children may fail to understand the conversation as an interactive task, requiring listeners to actively work at requesting and providing verbal feedback. Peterson, Danner, and Flavell (1972) state that in order to be an active listener and provide the necessary revision of a
request, the speaker must recognize the feedback from the listener requesting clarification.

Although others have investigated various aspects of children’s requests and responses, Wilkinson and her colleagues seem to be the only group that has examined the spontaneous production of requests and responses with elementary school children in peer-directed instructional groups. Using the information gained in their numerous studies, they have outlined a model for determining whether or not a student is an effective speaker in obtaining appropriate responses to requests.

From these and other studies of children’s requests and responses, one can outline why such interaction is important in the classroom.

**Importance of effective requests and responses.** Effective requests and responses have an important role in the process of teaching and learning in the classroom context because this kind of interaction with peers serves two crucial functions for learning: interpersonal and informational.

LaGreca and Mesibov’s study (1979) outlines some social communication skills needed by any child for successful interaction with peers. These include: greeting behaviours; extending and responding to invitations to join on-going peer activities; conversation skills such as asking questions about other people’s interests, responding to others’ questions, and maintaining an extended conversation by taking turns to comment on the topic of the conversation; and giving verbal and nonverbal compliments and positive feedback.

Bedrosian (1985) views requests for information, action, repetition or clarification as a means of initiating conversation and the revision of the request as a means of maintaining the topic in a conversation. In order to both initiate and maintain the topic in a conversation, students
need to know and follow rules of discourse (Spinelli & Ripich, 1985b). If a person can use appropriate rules of discourse, s/he is no doubt perceived as a more desirable partner for conversation. Brinton and Fujiki (1982) maintain that an inability to interact appropriately in a request-response sequence may be as serious a deficit to the child's communication system as inadequacies in syntax or phonology.

Further to this, Wood, Griffith, and Howarth (1980) state that how often a child answers a question when asked, makes an unsolicited contribution, or asks questions of others shows how much "initiative" a child has. Hoskins (1989) supports this view stating that a willingness to request a repair or to revise a request is a sign of assertiveness and positive self-esteem. Fey and Leonard (1983) agree that the initiation of a request for clarification may reflect the assertiveness of a student and an infrequent use of queries or requests for clarification could be a symptom of nonassertiveness. Once again, the student is considered a cooperative and desirable conversation partner if the student is an assertive and active participant, recognizing and accepting his/her obligations to participate in the conversation.

Ladd (1981) reports that after teaching three social skills, one of which was asking questions, to grade three students who were judged by their teachers as not being well-accepted by their peers, these skills generalized to classroom peer acceptance. Perceptions of being accepted by peers affect a student in many ways including: willingness to engage in social interaction, higher self-esteem and self-acceptance, positive attitudes toward other students and school, and motivation to achieve (Johnson, et al. 1986). There are potential favourable effects on the student's social skill development if the nature of the student-student interaction is positive and accepting. In addition to the social benefits from this mutual help and
exchange of information through appropriate request-response sequences, there are academic benefits.

The ability to make effective requests seems to have a direct influence on the child's learning. Creaghead and Tattershall (1985) state that at a very young age children have strategies for interacting with their peers to secure attention, initiate and respond to topics, obtain information and direct others' behaviour. They continue by saying that those school-aged children without adequate peer-group communication skills will be less able to learn from peer interaction or to share their knowledge with other children. Further to this, Cooper, Marquis, & Ayers-Lopez (1982) conclude from their study with children in kindergarten and second-grade classrooms, that children who learn are those who can ask, and the children who give information are likely to be the ones who receive it. They also feel that children who are known to be competent are approached by others not only to be asked questions but also to be informed of new learning by other knowing children.

As a result of this interaction involving giving and receiving information from peers in the learning situation, students seem to benefit directly in that responses help them learn more about the content or indirectly as the responses received cause the student to think about the topic (Wilkinson, 1984). Wilkinson and Calculator (1982) report that children who give information and receive it seem to reflect the benefits of such interaction in achievement scores. They note that students who used requests effectively were also the students who obtained the highest test scores in the class in reading and mathematics. Webb (1982a, 1982b) also reports that giving and receiving responses to questions positively relates to achievement. Webb further reports that the interaction variable relating most strongly to achievement was asking a question and receiving no response. Although the higher achievement may not be entirely as a result of the student being an
effective speaker, these authors have presented this possibility for consideration.

Thus, when children talk to their peers in the classroom, requesting and responding in an appropriate manner, both academic and social learning can be enhanced. This has implications for students who are hearing impaired being educated in the regular classroom.

**Conversation skills of students who are hearing impaired**

The classroom provides a new and different communication setting for the child. The kinds of interaction involve both group situations, listening to a lecture from the teacher, or participating in a teacher-directed class discussion, and one-to-one communication situations either with the teacher or with a peer. Brackett (1983) has noted that for the student who is hearing impaired, the child’s communication deficiencies are usually less noticeable in the lecture format since the children are required to respond only when they are called on or when they volunteer an answer. It is, however, the one-to-one conversations that the student who is hearing impaired can find most comfortable or most demanding, depending on the conversation partner. When conversing with the teacher, it is not uncommon for the adult to intervene when communication breakdown occurs, piecing together the known and unknown fragments of information in order to fully grasp the intent. Unfortunately, when left on his/her own in conversations with peers, a student who is hearing impaired often experiences communication difficulties (Brackett, 1983). As a result, successful interaction with peers in the classroom is not always easy nor frequent.

Studies of partially and fully integrated students who are hearing impaired show that the students rely more on teachers than peers for socially rewarding experiences (Antia, 1982; McCauley, Bruininks, & Kennedy, 1976). In their survey of communication practices of adolescents in
the mainstream, Libbey and Pronovost (1980) report that major problems for students were related to feeling uncomfortable talking with hearing peers and not being able to understand what was being said in a conversation. Griffith et al. (1985) state that students may fear being misunderstood or misunderstanding to such an extent that they avoid interaction with their peers.

Further to this, Ross et al. (1982) note that children with a hearing impairment in the regular classroom initially appear to play an active role when responding to requests from peers. However, on closer observation, these children use many verbal and non-verbal cues to indicate to the speaker that the message is being understood when in fact it may really need clarification. The students, however, do not ask for clarification but instead use back channel communication strategies and, according to Brackett (1983), feign comprehension. Lund and Duchan (1983) state that "backchanneling" describes a listener who is disengaged and is placing the burden of conversational responsibility on the conversational partner. Fey and Leonard (1983) report an abundance of these back channel communication strategies as "uh-huh", "okay", and "yeah", in the language of children who have a specific language impairment and state that children who are hearing impaired may use this same strategy to permit ongoing conversation, to allow students the feeling of being accepted as a conversation partner and not the one constantly interrupting to request clarification. They state further that while backchanneling may prove to be an efficient means of maintaining the flow of the conversation it also allows the student to avoid being an initiator of interaction.

A way of initiating interaction is through requests for clarification. Also, asking for clarification is a necessary skill for sustaining dialogue with others as long as it isn’t a constant interruption. Weiss (1986) reports that students with a hearing impairment responding to
requests from peers rarely request clarification or revision, giving their peers no clue that a revision is necessary. She states further that studies have shown that students who are hearing impaired have a limited repertoire of listener skills and as a result do not always use the most appropriate form of feedback when requesting clarification.

Ripich and Spinelli (1985a) feel that perhaps because the student who is hearing impaired responds poorly to some conversations, s/he is perceived as a passive communicator and consequently is not a highly desirable partner for interaction. They state that it could be that students who are hearing impaired are not selected as conversational partners by hearing students because it is like playing tennis with a weak opponent: the stronger player has to work especially hard to keep the ball in play and for most peers it is not worth the extra effort required.

Wood et al. (1986) maintain that if children are to become active, spontaneous, and responsive speakers who talk, ask questions and contribute to discussions, then teachers must inform, react, listen, and acknowledge rather than direct the conversation. They feel that students who are hearing impaired need opportunities for interaction that allows and requires them to be active participants. In their investigation using cooperative learning activities in a classroom with mainstreamed students who were hearing impaired, Johnson and Johnson (1985) state that students who were hearing impaired were active participants in the learning task. They state that the students tended not to be frustrated with problems in communication, the students who were hearing impaired didn’t withdraw or become excluded from the activity, and more interaction took place among the students.

A thorough review of the literature to date seems to indicate that students who are hearing impaired do not have the conversation skills comparable to their hearing peers
and this lack of skills adversely affects their interaction with peers. Before planning an intervention program to teach appropriate skills to a given student, the teacher must be able to assess the student’s current level of skill development in this area. Educators of mainstreamed students who are hearing impaired need to be familiar with means of assessing the skills necessary for successful conversations with hearing peers in the mainstream.

Pragmatic assessment

The two major objectives of a pragmatic assessment are: a) to determine the effectiveness of a child as a communicator, and b) to provide information for appropriate intervention (Roth & Spekman, 1984). It seems, however, that assessment in the area of pragmatics is still in the experimental stages as several authors agree that there is no single method of measurement which is appropriate for the assessment of pragmatics (Johnson, Johnston, & Weinrich, 1984; Lund & Duchan, 1983; Prutting & Kirchner, 1983; Roth & Spekman, 1984). They all agree that the method one employs depends on the behaviours to be examined, the level of analysis that is wanted, the time and personnel available for assessment, and the purpose of the assessment.

With regards to the behaviours to be examined, Roth and Spekman (1984) propose an assessment framework where conversation skills can be analyzed at three levels: 1) communicative intentions, 2) presuppositions, and 3) organization of discourse (Figure 3). They suggest that the teacher or clinician can analyze any aspect of the child’s use of language using this framework. They feel that when communication is examined at any of these levels, the
context in which the communication occurs can be readily considered and varied. Various authors agree that there is a need to include both speaker and listener comments, obtain a large enough number of utterances to sufficiently sample the child's language, assess the child interacting in a variety of settings, with a variety of partners, and with a variety of conversation topics (Bedrosian, 1985; Johnson et al., 1984).

Collecting observational data. It is generally agreed that observation is fundamental to the assessment of communication skills (Calvert & Murray, 1985; Dollaghan & Miller, 1986; Johnson et al., 1984; Ripich & Spinelli, 1985b; Roth & Spekman, 1984; Simon, 1985). These authors also agree that the observations need to be preserved in some form in order to perform the analysis. The various forms of recording the information include audiotaping, videotaping, checklists, rating scales, writing field notes,
or having multiple observers. What differs in the collection of the sample of language is whether the language sample is elicited from the student, or whether the sample is collected as it naturally occurs.

A number of elicitation procedures are mentioned in the literature, including: interview, role play, structured interaction with the clinician, and structured situations without clinician intervention (Bedrosian, 1985; Lund & Duchan, 1983; Roth & Spekman, 1984). All of these procedures require the teacher or clinician to observe and collect the language sample outside of the natural setting and, in the case of the school setting, outside the child's classroom.

Several authors agree that the most natural way to learn about children's sense of communication is to observe them participating in a natural context thereby obtaining a spontaneous language sample (Gallagher 1983; Johnson et al., 1984; Lund & Duchan, 1983; Nelson, 1985). If the teacher or clinician wishes to obtain a sample of language that is most representative of the child's communication in that context, then the language sample must be collected in that context. In the case of the school setting, the spontaneous language sample should be collected in the class, on the playground, or in the hall as the interaction occurs. Roth and Spekman (1984) suggest some limitations of a spontaneous language sample in natural settings. They feel that analysis is limited by what the child produces as the child may not use an aspect of language with sufficient frequency to enable an adequate assessment. It seems that it may be necessary to supplement naturalistic observations with a more structured elicited language sample obtained outside of the classroom. However, if the teacher or clinician wishes to obtain a sample of language that is most representative of the child's conversation in a particular context, then the language sample must be collected in that context. Once the language sample is collected, the sample can be analyzed.
Analysis of observational data. Dollaghan and Miller (1986) present steps they consider to be important in an observational assessment. These steps include: 1) specify the observational objectives, 2) select or construct an event taxonomy, 3) write adequate recognition rules, 4) select a data recording system, and 5) structure the observational context. The kind of observation outlined here necessitates that categories for analyzing the language sample are clearly established before observing.

Several authors state that whether or not categories are established before observations are made depends on what aspect of the child's communication is being analyzed. For example, Roth and Spekman (1984) suggest that if one is assessing the range and forms of communicative intentions, one can use an existing taxonomy. Several taxonomies have been developed over recent years and for a summary of these the reader may consult Simon (1985) or Lund and Duchan (1983).

If however, the objective of the analysis is to obtain a global appraisal of the child's communicative system, the coding will be on what Prutting and Kirchner (1983) call a molar level. When conducting a molar analysis, the means of coding the spontaneous language sample might include: checklists to judge whether behaviours are present or not (Creaghead & Tattersall, 1985; Nelson, 1985; Bedrosian, 1985), tallies of behaviour within a given time limit and at set intervals (Calvert & Murray, 1985), or a record of whether a behaviour is appropriate or inappropriate (Prutting & Kirchner, 1983). Prutting and Kirchner (1983) state that by using categories already established, observations can be accomplished relatively quickly as the procedure does not require an extensive amount of time. When using a pre-established checklist, it seems that while the means may prove efficient in terms of time, the observer will have to be very skilled at observing and making the judgements necessary to complete the checklist or
observation form. In the end, the teacher or clinician has a general idea of the student's conversation skills used in the context observed, yet little information regarding the content of that interaction. However, this is not to say that such a form couldn't be used in a different manner than initially planned, perhaps providing a framework for more extensive observations. However, at present, the forms usually serve as a checklist.

In an effort to yield more information than how often a behaviour occurs or whether or not the child's behaviour is appropriate in a given situation, some authors have proposed a more descriptive means of analyzing the language sample collected. An assessment of this sort is what Prutting and Kirchner (1983) refer to as a molecular analysis. A molecular analysis is a fine grain analysis of the child's behaviour. After collecting the language sample, the problems can be described in areas decided upon prior to the observation by the clinician (Bedrosian, 1985; Damico, 1985; Johnson et al., 1984). The authors cited here analyze language samples which occur between various partners yet still not within the natural setting. That is, the conversations which they analyze are between the child and a peer or the child and the clinician outside the classroom.

Whether the analysis is molar, general, or molecular, fine grained, the teacher or clinician enters the observational setting with a preset notion of the communication or communication breakdown they are looking for. Other authors propose that observations be made in the natural setting with only a general question to focus observations. Only after the observation is complete, does the observer analyze the utterances recorded for patterns of communication and communication breakdown. In this way, the observer will not miss what may prove to be very relevant aspects of the interaction. Such an assessment would employ ethnographic methods for observation and description of the interaction.
Ethnographic approaches in education. An ethnographic approach is a research method usually associated with anthropology and sociology (Smith, 1978; Wilson, 1977). However, the application of ethnographic methods to examine schools, classrooms, and curriculums is increasing (Genishi, 1982; Green & Wallat, 1981; LeCompte & Goetz, 1982; Ripich & Spinelli, 1985b; Smith, 1978). The two basic premises that support the use of ethnographic methods for the assessment of communication skills in an educational setting include: a) in order to learn about how a child is communicating in the classroom, there is a need to go into that environment and study the communicative demands of that particular context, and b) only through observation within the natural setting can one gain information not available using more quantitative measures and techniques. When describing the research base from which these premises are taken, Wilson (1977) states that to generalize findings to the everyday world, information must be gathered in settings similar to those that one hopes to generalize about. If one wants to generalize findings to the classroom setting, then the information is best gathered within the classroom setting.

The role of the observer must be clear to the teachers and students when establishing entry into the classroom. Sevigny (1981) states that there are four possible roles for the participant observer: 1) complete participation, 2) participant-as-observer, 3) observer-as-participant, and 4) complete observer. The most common types used are participant-as-observer and observer-as-participant. Often, observations may be recorded using audio- and videotapes. This is advantageous because the data is preserved for repeated viewing. When using participant observation techniques, Corsaro (1981) noted that the adult observer's physical size and the perceived power of the adult was a potential problem to be overcome. However, he feels that as the students accept the adult in the role established, this problem is reduced over time.
Gaining access to the classroom is the key to collecting observational information in the classroom (Corsaro, 1981; Ripich & Spinelli, 1985b). The observer needs to gain support of all the adults who have varying amounts of control over access to the classroom activities. The full support of the classroom teacher includes both physical access and psychological access to the classroom. Physical access refers to allowing the observer to physically enter the classroom. The participant observer can establish a regular observation time so that s/he can truly become a participant observer in the classroom and thus appear to the students to be a usual part of events in the classroom. Psychological access refers to the attitude of the classroom teacher. It is important that the classroom teacher understand that it is the student and not the teacher who is being observed and that the teacher’s input is welcomed in the assessment and intervention process.

The participant observer must constantly make decisions during observation periods about where to be, what information to record, who to talk to and the questions to ask. The information that is gathered and the patterns that emerge are used to direct subsequent data collection (Wilson, 1977). These strategies help the participant observer to accumulate as complete an understanding as possible of the interaction observed. Thus, the observer has only tentative questions to guide the collection of data or has ideas from a previous study to focus his/her perceptions, but s/he does not have any preconceived hypotheses (Borg & Gall, 1983).

While observing, the participant observer makes field notes containing information on the participants, the activity, and the nature of interaction employing various recording conventions to aid in the quick, detailed, and accurate recording of the observations (Borg & Gall, 1983; Corsaro, 1983; Genishi, 1982; Sevigny, 1981; Smith, 1978;
Wilson, 1977). Each observer will develop their own system for most accurately recording observations. Corsaro (1981) differentiated among different types of information he recorded by labelling comments and observations as being one of field notes, personal notes, methodological notes, or theoretical notes. Smith (1978) states that thinking during observation periods is an important aspect of both the recording of the information and on-going analysis. Evidence of this reflection is the recorded ideas, insights, and questions that come to mind while observing and talking with people in the setting.

In addition to recorded notes, the participant observer may conduct both structured interviews and informal conversations. This is referred to as triangulation as it involves obtaining participants’ reactions and perceptions of the observed interaction (Corsaro, 1981; Sevigny, 1981; Smith, 1978; Wilson, 1977). The observer can estimate the validity of his/her interpretations through this involvement of others in the process. Participants can be asked to offer ideas about the interaction that has occurred in response to both general or specific questions from the observer. Their reactions can be compared to those of the observer leading to a clearer understanding of the events observed and recorded (Corsaro, 1981). Smith (1978) emphasizes that this triangulation process need not be structured, but that useful information can be gathered from participants through informal conversations. This detailed record of the interaction thus comprises the data to be coded and analyzed at a later time.

After studying the field notes, the observer develops categories and a coding system to analyze the notes recorded. Knowledge of previous research and methods allows the observer to use others’ coding systems whenever it is helpful for analyzing and explaining interaction (Wilson, 1977). The coding system for interpreting observed
behaviour is developed so that others can interpret the observations in approximately the same way.

The next step in data analysis is what Smith (1978) refers to as the descriptive narrative. This involves the participant observer's interpretation of the coded information and the searching for patterns within. The origin of patterns that emerge are traced retrospectively (LeCompte & Goetz, 1982). In re-reading notes and locating specific examples from the recorded observations and interviews, one attempts to 'tell the story' of the case under investigation (Smith, 1978).

From this review of the literature, it can be seen that the evaluation of conversation skills is only one component of any overall communication assessment and a combination of procedures will undoubtedly provide the most comprehensive information regarding a student's capabilities. However, it seems that ethnographic methods, using participant observation as a tool, should have a place in assessment. This will be kept in mind while reviewing current approaches for the evaluation of conversation skills of students who are hearing impaired.

Evaluation of conversation skills of students who are hearing impaired

As a direct effect of a hearing loss is on the speech and language development of children, a comprehensive assessment of communication skills is needed in order to plan an appropriate educational program (Brackett, 1981; Kretschmer & Kretschmer, 1978; Ross et al., 1982). In an attempt to measure the ability of a student who is hearing impaired to communicate, educators in the field traditionally divide the process into discrete parts as either being a part of production or comprehension. As a result, one is able to describe and give specific examples of speech and language errors to be targeted for intervention. While these measures are perhaps important
for identifying specific problems and planning intervention, they do not address performance. As stated earlier, the purposes of a pragmatic assessment for any student are to determine the student's effectiveness as a communicator and to provide information for appropriate intervention (Roth & Spekman, 1984).

An aspect of a student's effectiveness as a communicator is his/her speech intelligibility. Recalling the factors that might influence conversation when one partner is hearing impaired discussed earlier, it would seem appropriate to obtain a measure of speech intelligibility of both talkers as an indication of how well they understand each other's speech.

Assessing speech intelligibility. Rotunno (1980) defines speech intelligibility as a measure of the ability to produce and/or receive the speech message. With regards to producing the speech message, in a conversation between a student who is hearing impaired and a peer, this would refer to assessing the speech production of the student who is hearing impaired and the peer's ability to understand him/her. With regards to receiving the speech message, this would refer to the ability of the student who is hearing impaired to understand the speech production of the peer. As this aspect of assessment of conversation skills is not the major focus of this study, a thorough review of the literature will not be carried out, but for the purposes of this study, some measures and procedures will be discussed and a possible assessment approach suggested.

Speech intelligibility of a student who is hearing impaired is said to be an important dimension in the overall assessment because peers and teachers must be able to understand the student (Brackett, 1981; Ross et al., 1982). There are several methods for eliciting speech for intelligibility tests: word identification tests (Monsen, 1981), tasks requiring the student to talk about pictures (Markides, 1970), tasks requiring the student to read
prepared sentences (Rotunno, 1980), reading cloze sentences (Ross et al., 1982), or obtaining a spontaneous speech sample (Porter & Bradley, 1985). Porter and Bradley (1985) feel the spontaneous speech sample is desirable as the student can be tape recorded, or can talk face-to-face, speaking spontaneously on familiar topics as sports, T.V. shows, school, and hobbies.

The two methods of rating intelligibility are through word identification and scaling (Rotunno, 1980). In the first case, listeners indicate what word or words they understood and a percentage of accuracy is calculated, while in using a scale, listeners rate the intelligibility according to a predetermined scale (Rotunno, 1980; Schiavetti, Metz, & Sitler, 1981). An example of a word identification test is the Speech Intelligibility Evaluation (SPINE) Test (Monsen, 1981), and a scaling procedure is the Speech Intelligibility Rating Scale developed at the National Technical Institute for the Deaf (NTID) (Subtelny, 1977). In a study comparing students' absolute speech intelligibility using these two measures, Porter and Bradley (1985) recommend the NTID scale for use with linguistically advanced students and the SPINE with students at lower language levels.

Geffner, Levitt, Freeman, and Gaffney (1978) report that teachers of students who are hearing impaired tend to give higher ratings of their students' speech intelligibility than an outsider would. In an effort to provide a reliable measure of intelligibility, some tests require up to six listeners (Rotunno, 1980). However, Porter and Bradley (1985) report high interjudge reliability using both the NTID scale and the SPINE and thus recommend that a student's intelligibility may be judged by only one to three listeners.

In summary, there are tests currently being used for assessing the speech intelligibility of students who are hearing impaired. However, several authors conclude that no
adequate tests are currently available, and there is a need for the development of a more standardized scale (Porter & Bradley, 1985; Rotunno, 1980; Schiavetti, Metz, & Sitler, 1981).

Pragmatic assessment. Oleksiuk-Velez and Walter (1980) review and recommend measures for the assessment of receptive, expressive, and interactive communication skills of students who are hearing impaired from five years of age through to adulthood. In this report, authors note that while assessment measures exist for determining some receptive and expressive language skills of students from 5 to 15+ years of age, they report finding no known test instruments for measuring interactive communication skills. In the report, they define interactive communication skills as involving the conversation moves of turn-taking and maintaining a conversation. They state that although it is a concern regarding the child's lack of functional use of language that brings him to the clinical setting, no standardized tests are available to determine the scope of his problem. In this review, completed almost a decade ago, the authors commend Kretschmer and Kretschmer (1978) for their then recent steps toward using the spontaneous language sample for more than a syntactical analysis of a child's language.

Kretschmer and Kretschmer (1978) state that the spontaneous language sample could be used for describing all four dimensions of language: phonology, syntax, semantics, and pragmatics. They present the Kretschmer spontaneous language analysis system, which consists of six topics for analyzing utterances or writing of students. One of the subtopics is communication competence which asks the teacher to focus on aspects as: kinds of speech acts; the number of times the child initiates conversation, changes the topic, pursues the topic, or formally ends conversation; instances of a number of conversation acts; and instances of a number of conversation devices, from the use of determiners to cue
given/new information, to the use of adverbial constructions to signal a topic change. Unfortunately, the authors present only a semantic and syntactic analysis of a student’s written language and do not include a pragmatic analysis, stating only that a larger sample, and one of dialogue rather than writing, could be analyzed with the procedure.

Brackett (1981) presents a test battery for the assessment of speech and language skills. Although the battery addresses five areas of assessment, mode for reception of speech, comprehension of orally presented material, production of spoken language, intelligibility of speech, and comprehension and production of written language, it does not address the assessment of a student’s pragmatic skills.

Ross, Brackett, and Maxon (1982) suggest the need to not only assess vocabulary, morphology, and syntax, but also how the child is able to use language. They suggest that a language sample of the child’s spontaneous language, either elicited or through observing the child in naturalistic settings, would yield this information. However, they do not develop this aspect of their test battery further. Instead, their focus of classroom observation is to glean general information in a number of areas including: participation of the child in classroom activities and in group discussions, the interactions between the child and his teacher, the interactions between the child and his classmates, and the child’s strategies for learning and processing content material. These authors close by stating that they don’t consider any comprehensive evaluation complete unless classroom observations are included, yet they give only this vague guideline of how a teacher might carry out these valuable observations.

More recently, Thompson, Biro, Vethivelu, Pious, and Hatfield (1987) have compiled sample test batteries for four age groups of children who are hearing impaired: 3-year-olds, 3 to 5-year-olds, 6 to 10-year-olds, and 11+-year
For the two categories of elementary students, 6-10 years of age and 11+ years of age, the authors include several measures for the assessment of pragmatics, including: the Interpersonal Language Skills Assessment (ILSA), the Kendall Communicative Proficiency Scale; and informal observations and language samples recorded within meaningful contexts.

The Interpersonal Language Skills Assessment (ILSA) provides a system for the structured observation and analysis of social language behaviours for hearing children ages 8 to 14 years. After collecting a language sample while observing 3-4 students playing a table game, the child’s language is coded into sixteen language functions. As Thompson et al., (1987) indicate in their review, there are several advantages to including ILSA in a test battery for assessing communication skills of students who are hearing impaired: few other assessments attempt to measure social language in such an organized manner; the social skills of language within the test are those often not identified but are ones that should be in students who are hearing impaired; the test allows teachers to select a specific behaviour from the test to teach to a given student. However, they do not point out the disadvantage of simply coding speech acts or intentions of the speaker. After a half hour of observation, the teacher or clinician must spend time transcribing and coding which yields very little information beyond a classification of comments that the student does or does not use in a game situation. The assessment does not yield descriptive information about the interactive process, nor the social context in which the speech act occurred, which would provide more useful information from which to plan meaningful intervention.

The second measure that Thompson et al., (1987) include in their test battery for pragmatic assessment is the Kendall Communicative Proficiency Scale. They state that this measure can be administered in a question and answer
format, through observation, or a combination of approaches. The scales are said to be developmental, divided into eight levels, Level 0+ through Level 7. These authors feel that the scales provide information about how close children are to others their age, how solid their skills are at a given age, or whether their skills are splintered and scattered below and above the target age. Once again, however, the information gained from observing and completing the checklist will provide a molar analysis, as defined by Prutting (1982), as it will indicate whether or not the pragmatic behaviour was present (yes/no), but it will not provide information as to the nature of the interaction. It depends on the information wanted as to whether or not this checklist will be useful to the teacher or clinician.

The third means of pragmatic assessment included in Thompson et al.’s (1987) test battery for elementary students in the public school is informal observation and language samples recorded within meaningful contexts. They feel that educators need an approach that allows the student’s language to be assessed using communicative interaction as the framework within which grammatical competency is analyzed. Spontaneous language samples are suggested for providing all of the information necessary to develop intervention plans for all aspects of language: form, content, and use. To obtain the sample, the authors suggest that teachers observe students when they are communicating with different people in different circumstances, obtaining eight to ten utterances for five days, for a total of forty or fifty utterances. These authors suggest that teachers include the context, the antecedent event/stimulus, the response, and the use of the utterance in the recording of the interaction. With this third approach, more descriptive information can be obtained, but it is up to the teacher to relate recorded information to some kind of framework of assessment, for they conclude by recognizing that analysis will be difficult
because taxonomies have not yet been completed in the area of language use.

This review of the literature regarding the assessment of conversation skills of mainstreamed students who are hearing impaired clearly indicates that there is a lack of assessment procedures in this area. The important point gleaned from the literature is the need to assess the students in the classroom as they communicate with various partners. Although suggestions have been made in the literature regarding naturalistic observations, they are either too vague to be easily used or too general to yield information for direct intervention and program planning.

There is a need to draw from normal language studies and assessment literature, and to use those proposed methods of language sampling and description to study and assess the conversation skills of students who are hearing impaired. The following chapter outlines the methodology for a case study using ethnographic procedures from the normal child language literature in an attempt to assess a student who is hearing impaired as an effective speaker with his peers in the regular classroom.
CHAPTER III  
CASE STUDY 

Purpose

The present study was conducted using participant observation in a regular classroom to collect data to provide both a quantitative and qualitative analysis of the requests and responses of a student with a hearing impairment during student-directed instructional activities. The study was conducted to test the applicability of the Effective Speaker Model (Wilkinson & Calculator, 1982) with a mainstreamed student who is hearing impaired.

Research question

The general research question for this study was:

*Can the Effective Speaker Model be used to assess the requests and responses of mainstreamed students who are hearing impaired in student-directed activities with peers?*

In an attempt to answer this research question, the general question to guide the participant observation was as follows:

*What is the nature of the student's requests and responses to peers?*

The following specific characteristics of requests and responses were addressed:

1. Are the student's requests on-task?
2. Are the student's requests sincere?
3. Are the student's requests designated to a listener?
4. Are the student's requests direct?
5. Are the student's requests revised if there is an initially unsuccessful request?
6. Does the student request clarification?
7. Does the student obtain appropriate responses to requests for action and information?
Method

Participant. G. is an eleven year-old boy in grade five in a split grade 4/5 classroom of seven grade four students and twenty-three grade five students. The school is located in a neighbourhood containing a number of new Canadian families, but composed largely of white middle-class members. G. worked with nine different grade five students during the observation period all of whom had speech and language abilities appropriate to their chronological ages. G. is one of two students in the school with a hearing impairment, and the only student in his class who is hearing impaired.

G. has been attending the school since kindergarten and has been fully integrated since grade one, receiving support from an itinerant teacher of the hearing impaired since his introduction to the school. Prior to attending his neighbourhood school, G. attended a private school for students who are hearing impaired that uses the aural/oral method of education.

He has a bilateral severe to profound hearing impairment with unaided and aided better ear average (500, 1000 and 2000 Hz) thresholds of 88.3 dB and 40 dB (ANSI 1969) respectively. G. was hearing impaired from birth and was fitted with his first hearing aids following diagnosis at the age of twenty-five months. At that time, his family was involved in a home training program emphasizing the development of audition and speechreading in language acquisition. Speaking is G.'s preferred means of communication both at home and at school. G. comes from a family for whom English is a second language.

G. is a consistent hearing aid user, wearing two behind-the-ear Siemens 24 PPAGCI hearing aids with a direct audio input option. To maximize the speech signal in the educational setting, he wears a Phonic Ear FM system coupled to his personal aids at all times. During large group instruction the teacher wears the FM transmitter while
during small group or partner activities, G.'s peers wear the FM transmitter.

G. has no additional handicapping conditions. By way of further describing some aspects of G.'s communication skills, a measure of speech reception using the PBK-50 word lists (Brackett, 1981) results in 24% accuracy when only speechreading, 68% when only listening, and 84% with combined listening and speechreading, indicating that he benefits from the combination of both auditory and visual information; and his approximate receptive vocabulary is 7.10 years based on the Peabody Picture Vocabulary Test-Revised (Dunn & Dunn, 1981).

Site. Observations were made during G.'s Composition/Social Studies class taught in the library every Tuesday and Thursday from 1:00 to 3:00 p.m.. The library itself and the rules of communication established by the teacher satisfied many of the criteria that create a very favourable listening environment. The room is well-lit and located well away from the music room and gymnasium, potentially noisy areas of the school. It is completely carpeted with acoustic tiles lining both the ceiling and the walls above the bookshelves. Although the classroom windows were often open, environmental sounds, including the rumble of outside traffic, was not usually evident. Seven tables, separated by low shelves, are arranged in the room so that up to four students can work at each. (Note seating plan in Appendix A: Observations). The shelves between the groups of tables allowed field notes to be recorded immediately adjacent to the site of interaction. The distance between the student and his peer was usually optimum. In fact, the classroom teacher provided guidelines for partner communication which included sitting knee to knee and speaking eye to eye. In general, the factors that might adversely affect ease of listening, as discussed in Chapter II, were reduced as much as possible thus maximizing the
speech signal for the listeners, especially the student with a hearing impairment.

**Data collection**

**Observing and recording events.** The researcher was an observer-as-participant in the classroom. However, to establish a regular observation schedule and rapport with the classroom teacher and students (Corsaro, 1981), the researcher participated in the classroom activities without making formal observations from September to December. This participation included responding to student requests for assistance with an activity or initiating conversation with students regarding the composition or social studies task. By January, and perhaps before, there was a definite sense of comfort and confidence from the classroom teacher and students as evidenced by students in the classroom initiating requests for help from the researcher as well as the regular classroom teacher.

Participant observation followed a routine schedule. Every Tuesday and Thursday, the observer-as-participant entered the classroom at 2:00 p.m. and observed the activity frequently already in progress before placing herself in the area where G. and a peer were seated. Observations were recorded in G.'s classroom seventeen times in the months of January, April, and June during cooperative learning activities requiring students to work together to complete all activities. Typically, this working cooperatively was encouraged through directions and follow-up discussion as:

With your partner, turn to page..., Come to a consensus with your partner about..., Be sure you and your partner agree on and understand the answers you write..., and Tell why you both decided on the answer. At the end of an activity, the teacher lead a discussion regarding how the students worked together to complete the activity and how the students felt about learning with a partner. During the month of January, students worked with a different partner every Tuesday and Thursday; in April, students worked with the same partner to
complete stations on Forestry; and in June, students once again worked with a variety of partners on activities about government and communication. In total, G. worked with nine different peers.

Once the activity had begun, the researcher stationed herself behind, in front of, or beside G. and his peer, either standing at the counter or shelf adjacent to the pair. Frequently the classroom teacher circulated throughout the room with a clipboard making notes to guide the discussion with the students at the end of the cooperative activity. This made the researcher less conspicuous as both adults in the room could often be seen making notes on a clipboard.

The observer-as-participant functioned as a second teacher in the classroom, moving frequently from one table to another, initiating interaction with students, responding to student requests for assistance, or conversing with the classroom teacher. Depending on the level of participation of the researcher, the length of observation time varied from ten minutes to thirty minutes.

The field notes included the following consistent information: date, subject, seating plan, and description of the activity, including teacher directions and any handouts used during the activity (Appendix A).

Some basic guidelines for transcribing the conversation were employed, including:

(1) Each speaker was identified by name initial written in front of every new turn taken by that speaker;
(2) Actions or nonverbal information were recorded in parentheses;
(3) Statements not understood by the researcher were recorded in parentheses as inaudible; and
(4) In the right margin of the field notes, two kinds of information were noted:
   - TN (Theoretical Notes): These notes focused on factors that might influence the conversation: student amplification, distance between student who is hearing impaired and peer, lighting, noise outside the classroom, noise within the classroom,
acoustic treatment of classroom, and peer speech. Information was noted when any of these factors were unusual or when other than optimal conditions were present; and
- PN (Personal Notes): These notes included questions, ideas, or feelings that occurred to the observer during the observation. These were to be looked into at a later time. At the end of the observation period, information was added to make the notes clearer.

Individual assessment. As discussed in Chapter II, the student’s ability in a number of different areas of language comprehension and production could be determined in a comprehensive evaluation of communication skills. For the purposes of this study, however, the following individual assessment was completed: G.’s reading ability, an indication of G.’s understanding of the speech of his peers and his peer’s understanding of his speech.

Reading. Vocabulary and comprehension scores were obtained using the Gates-MacGinitie Reading Test administered to the whole class by the classroom teacher in June. This was thought to be important data for two reasons: as the test was administered to the entire class, the researcher could note G.’s reading scores on this test in relation to his peers, and as many of the activities involved reading and answering questions together from the social studies textbook, the student’s reading ability could influence his participation in the activity.

Speech intelligibility. As discussed in Chapter II, speech intelligibility of talkers is a relevant measure especially if one partner in the conversation is hearing impaired and uses speech as his/her preferred means of communication. For the purposes of this study, because communication between a student who is hearing impaired and his peers is being investigated, it is important to measure both how well the student understands the speech of his/her peers and how well his peers understand his speech.
The two peers chosen for this individual assessment were two of the nine students with whom G. had been working for several consecutive social studies classes. These students were considered to be representative of the nine partners. The same open-ended questions were used for determining both the peers' ability to understand the speech of G., and G.'s ability to understand the speech of his peers. The questions were on familiar topics as sports, T.V. shows, school, hobbies, and summer plans (Appendix B).

In a well-lit room free of background noise, G. and a peer were seated facing each other with a distance of no more than forty-five centimetres between them and both were given a copy of the six open-ended questions. They were told that as they had been working well together for a number of classes, the researcher wanted to know how well they understood each others' speech. They were directed to take turns asking each other the questions in any order they chose. G. was directed to ask the first question. After the peer responded, the researcher asked G. to repeat verbatim the response of the peer, and after G. responded to a question from the peer, the researcher asked the peer to repeat G.'s response. This was continued until all six open-ended questions were asked by both the peer and G. A Sony Model TC-96L cassette recorder with a built-in microphone positioned on the table between the two students was used to tape-record the requests and responses. The researcher sat to the side of the two students.

The speech intelligibility was determined by calculating the percentage of words correctly understood from the words spoken, and based on this, described using the scale proposed by Monsen (1981) (Appendix B).

Triangulation: Student interviews. The validity of some of the interpretations of G.'s responses to peers and conclusions regarding some general patterns were checked by triangulation. The researcher used open-ended and
comparison questions to individually interview G. and two of the nine peers with whom he worked. The same two peers who participated in the measure of speech intelligibility also answered the questions in the interview. The kinds of questions directed to both G. and his peers following the completion of the units of study are given in Appendix D. The peers and G. were asked these questions individually following the measurement of speech intelligibility.

Data analysis

Coding. The analysis of the request-response sequence was considered to include a combination of the following: 1) request from G., 2) peer's response, 3) G.'s revision, 4) peer's response, 5) G.'s request for clarification, and 6) peer's response. The sequence begins then with a request from G. and ends when G. no longer attempts to obtain the appropriate response, either because he receives an appropriate response or he does not receive an appropriate response yet abandons his attempt. Responses refer to the revisions and requests for clarification when a peer response to G.'s request is unclear, and do not include responses to peer requests, hence the reference to G.'s requests and responses. The requests and responses were coded according to the following categories as defined by Wilkinson and Calculator (1982): (Appendix C).

1. **Utterance**: A string of words communicating one idea
2. **Requests**:
   a) **Requests for action**: Attempts by the speaker to obtain action performed by the listener, or
   b) **Requests for information**: Attempts by speaker to obtain information from listener.

All requests were coded as having or not having the following characteristics:

a) **On-task**: The request is related to the academic content and/or procedures and materials of the assignment.

b) **Sincere**: A request is perceived as sincere if a) the listener believes the speaker really
wants the information and does not already know the information, b) the listener is able to respond, c) the listener has an obligation to respond, and d) the speaker has a right to make the request.

c) **Designated to a listener**: The request is directed verbally and/or nonverbally and unambiguously to a student.

d) **Direct**: For requests for action: imperative form; For requests for information: wh-, yes-no, or tag question.

e) **Revised if initially unsuccessful**: A restatement of a request previously made by the same speaker to the same listener who had not responded appropriately.

Based on a pilot study, the following characteristic was added:

f) **Request for Clarification**: An attempt by the listener to repair communicative breakdowns using a neutral request for repetition, request for confirmation, specific request for specification, or specific request for repetition.

3. **Responded to appropriately**: The requested action or information was given or else a reason was given why the action or information could not be given.

**Description**. After the observational data were coded and summarized (Appendix C), the frequency percentage of each characteristic was calculated, and a profile drawn. Given this profile of characteristics of the students’ requests and responses, the researcher then searched for excerpts from the field notes and student interviews to describe the configuration. The verbatim accounts of what was said and the multiple examples of excerpts substantiate the coding.

Although one can’t identify precise causes of a pattern, referring back to the recorded observations and participant responses to interview questions was effective in delineating a possible cause. In summary, the data were first quantified, yielding measures of each of the characteristics, and then qualified with specific examples.
from the recorded field notes and information gleaned through student interviews.

Thus, within the framework of the *Effective Speaker Model*, various characteristics of the student's requests and responses to peers were identified and patterns described. These results are discussed in the following chapter.
CHAPTER IV
RESULTS AND DISCUSSION

The general question the researcher was attempting to answer in this study was:

*Can the Effective Speaker Model be used to assess the requests and responses of mainstreamed students who are hearing impaired in student-directed activities with peers?*

During data collection and analysis, the following question guided the participant observation:

*What is the nature of the student’s requests and responses to peers?*

**Individual assessment**

As the purpose of this study was not to carry out a comprehensive assessment of communication skills, only some of those skills that were considered to be possible influences on the activity observed, reading ability and speech intelligibility of G. and his peers, were measured.

On the Gates-MacGinitie Reading Test, G. scored at grade 2.8 on the vocabulary subtest and grade 2.6 on the comprehension subtest for a total grade score equivalent of 2.7. The total scores for his peers ranged from grades 3.7 to 9.0. G.’s skill level is well below the level of his peers and it would be anticipated that he would experience difficulty in reading the social studies textbook that has a readability range extending from grade five to nine (Fry Readability Index).

Regarding speech intelligibility, one peer understood G.’s speech with 80% accuracy and the second peer understood his speech with 85% accuracy. On rating G.’s perception of the intelligibility of his peers’ speech, it was found that he understood one peer with 80% accuracy and another peer
with 78% accuracy. According to Monsen's scale (1981), both scores indicate good speech intelligibility where listeners will miss only occasional words in sentences, but will understand most, so that the communication process on the whole is smooth.

The speech intelligibility measures were taken in a relatively quiet setting using familiar questions rather than in the classroom where listening would be more difficult due to competing background noise of classmates' conversation and unfamiliarity of spontaneous peer utterances. Also, in the classroom G.'s peer often spoke with his/her head down so G. was not always able to easily speechread him/her thus possibly affecting the peer's speech intelligibility. As a result, the communication process in the classroom could be affected to some degree by G. at times relying on listening only, and to a lesser degree, by his peers' inability to understand his speech.

When this interpretation was investigated through interviews, the students agreed that there were some difficulties speaking with G. in the classroom, but that they usually understood his speech. When asked what they did when they didn't understand G., both students stated that they sometimes asked G. to repeat what he said and they usually understood the second time. G. too stated that he sometimes had to ask students to repeat but not often. They further stated that sometimes the noise in the classroom made it difficult to understand.

Although it is evident from the recorded observations that G. and a peer found each others' speech intelligible enough so that the communication process on the whole is smooth, this individual measurement quantified these data in a more controlled setting. While examining the observational data the researcher kept this information in mind.
Coding and description

The data base included 331 utterances by the student and his peers, 192 of which were made by the student who is hearing impaired. Of the student's 192 utterances, 86 were requests, with 15 requests for action and 71 requests for information. With regards to the frequency of requests for action and requests for information, Wilkinson and her colleagues (1982, 1983, 1984, 1986) also found that requests for information were used more frequently than requests for action. As Wood et al. (1980) and Hoskins (1989) have stated, how often a child asks questions of others shows a degree of initiative and assertiveness. From this data, G. does request information and action from his peers thus indicating a certain degree of assertiveness on his part.

A frequency count of the characteristics of the student's requests and responses provided the data for a profile. The frequency percentage for the characteristics and appropriate responses are displayed in Figure 4. The profile in Figure 4 shows that G.'s requests are generally on-task, are designated to a listener, and are direct. With regards to effective requests being direct, Wilkinson and her colleagues (1982, 1983, 1984, 1986) found this to be common in studies involving students in grades one, two, and three as well as with students for whom English was a second language. Ripich and Spinelli (1985a) maintained that indirect request forms increased with age. As Ripich and Spinelli did not provide more specific information, it is difficult to determine whether or not this frequency of direct and indirect requests is appropriate for G. in grade 5, or whether he should be producing more indirect requests. In general, G. seems to be competent in the aspects of being on-task, direct, and designated to a listener when producing requests. However, G.'s requests are sincere only 83% of the time resulting in noncompliance from peers every time his requests lack sincerity.
Two of the conditions outlined by Labov and Fanshell (1977) regarding sincere requests are frequently not met by G.: a) the speaker really wants the information and does not already know the information, and b) the speaker has a right to make the request. Peer response to G.'s insincerity seems to take one of three forms: impatience, indifference, or blatant refusal to respond.

Figure 4: Characteristics of the student's requests and appropriate responses.

Peer impatience to insincere requests is illustrated in the following examples:
G - Do we have to write that down?
J - (continues reading text out loud)
G - Oh- you read this one and I’ll do the next one.
J - (continues reading)
G - Could you read just a little faster.
J - (continues reading)
G - It says we have to do 1 and 2. Where do we write it down?
J - (Looks at G)
G - How do we know this stuff? Are we both supposed to do it?
J - Yeah.
G - What do we write?
J - (impatiently) Read it. Here.
   Write: The forest company...

G. doesn’t satisfy the first condition of sincerity - the speaker really wants the information and does not already know it. The peer seems to think that G. already knows the answers to his questions of what they are to do and thus responds to this perceived insincerity.

In the following example, G. does not seem to satisfy the second condition of sincerity - the speaker has a right to make the request:

G - What else did you write?
   (looks at R’s paper & reads answer)
   a hotel, stores, a dirt road...
R - (continues to write his answer to the question)
G - a dirt road?
   Is that a dirt road?
R - (no response)
G - (continues to read R’s answer)
   ...mountains. Yeah, mountains.
   ...lots of people?
   Lots of people in a ghost town?
R - (reads)
   What shows that this is a town?
   (writes answer)
G - (reads R’s answer)
   a man, a store, a road, a house...
   This looks like a busy town.
R - No, a town, a town, not a busy town, G., just a town. (impatiently).

It would seem that G. doesn’t have the right to question the answer of his peer when he hasn’t offered any answers himself. His peer doesn’t discuss any of the
answers with G. either which is perhaps a reflection of what he thinks of G.’s ability to do so, or it may simply be that R. prefers working independently and does not work well with a partner. In any event, R. seems to feel that G. does not have the right to question the answers he has written and responds to this.

An example of peer indifference to G.’s insincere requests is illustrated by the following:

G - What’s number 6?
J - lumbermen and forest workers
G - What?
J - lumbermen and forest workers.
G - Are you sure?
   (flips back a few pages and finds answer)
   Oh yeah.
J - (reads out loud)
   How can Canadians help save our resources?...
   ...by recycling..
G - How do you know?
J - Because it says so here.
G - Oh. (writes answer)
J - (reads out loud)
   Describe some of the main differences between forest use in the past and today.
   ...there are machines now.
G - There are machines now?
J - That’s it. We’re finished.
G - How about, they plant more trees now?
   And how about, they’re clearcutting?
J - (packs up his papers and pencils)

Here G. once again questions the answers of his peer while he does not contribute to the activity. When he does have some appropriate information to contribute at the end of the sequence, his peer is indifferent to the response.

Along with these insincere requests, G. has not contributed to the completion of the activities, but instead he merely copies his peer’s answers. In fact, this copying occurred during six of the seventeen activities observed. As a result, G. could be perceived as an unequal partner, not pulling his weight in the completion of activities.

Through triangulation, the researcher found that generally the students agreed with the participant
observer’s interpretations that G. did not always do his share of the work. The peers, however, were reticent to give specific examples, perhaps stopped by a stronger sense of loyalty to a peer than to an adult. When questioned about who wrote more answers, G. or his partner, G. showed that he was not very concerned about the information of the lessons and his contribution, but was more concerned about getting the work done. G.’s lack of input could be due to his finding the task too difficult as all activities require him to read and answer questions from the textbook or other written materials. Knowing that his reading ability is far below the demands of the material, this could be a plausible explanation. In putting so much energy and attention into just keeping up with the pace of a more capable partner, G. is a passive and often non-contributing partner. As a result, he is perhaps viewed by his peers as not the most desirable partner.

A blatant refusal to answer an insincere request is illustrated in the following excerpt:

G - (pointing to station folder) J. are you sure we haven’t did this one?
J - (looks at G - no response)
G - Those are very nice trees.

In this excerpt, the peer doesn’t respond impatiently or with indifference, but rather makes eye contact and gives no response. G.’s response to these blatant refusals is to change the topic rather than revise as in the above example. Wilkinson and her colleagues (1986) feel that this is an attempt to keep the conversation going when a request has not been answered as expected.

Further to revising requests, Wilkinson et al. (1982, 1983, 1984, 1986) state that effective speakers are flexible in revising their initial request, using various techniques to eventually obtain an appropriate response from listeners. When G. did revise his requests, his most successful revisions were when he designated a previously undesignated
listener or when he reworded his request. Revision through designing a previously undesignated listener is illustrated in the following example:

G - Can I use your glue?
J - (no response; gluing words in book)
G - Hey, can I use your glue, Jason?
J - You can't borrow other people's materials.

A successful revision through rewording is illustrated by the following:

G - Can we use your letter thing?
N - what?
G - Can we use your thing to make letters?
N - yeah.

Referring to Figure 4, G. does not revise twenty-one of his thirty-eight requests that were initially unsuccessful, resulting in revisions only 45% of the time. However, fourteen of the twenty-one requests that G. does not revise are insincere. The pattern that emerges is that G. makes an insincere request, his peers respond in a number of ways, including blatantly refusing to comply, becoming impatient, and being indifferent, and G. doesn't revise his request. One might question whether or not a speaker can revise an insincere request. If the fourteen insincere requests are removed from the number of requests that are not revised when initially unsuccessful, the value for revisions is then 71%. Hence, G. successfully revises his requests when he can.

Both kinds of analysis, quantification and qualification, proved important in providing a useful description of G.'s revision of requests. Although there is a difference in the value for the revision of requests depending on whether or not insincere requests are included, the calculation of the frequency percentage was not changed as a result of this reflection during data analysis. Instead, it was felt that the initial frequency percentage
of 55% for nonrevision of requests is striking enough to cause one to search for a possible cause and explanation for the configuration. However, attention is drawn in the coding summary in Appendix C to considering revisions with and without sincere requests.

There are instances when G.'s requests could be revised yet he does not do so. Such an example of not revising requests when initially unsuccessful is illustrated in the following excerpt:

J - (reads next question)
Who employs the largest number of people?....
G - What does that mean?
J - (reads graph)... the pulp mills (writes the answer)
G - (looks at J.'s answer & writes the answer)
J - (reads next question)
How many people are employed?
(reads graph)...1950
G - 950?
(looks at J.'s answer and writes the answer)
J - (continues with next question)
What year had the greatest number of forest fires?
(reads graph)...1975
G - 1979?
(looks at J.'s written answer)
J - (continues with next question)
What's the major cause of forest fires?
G - What's that mean?
J - (reads graph)...lightning

This is an example of G. not persisting with his request for information, What does that mean?, when the peer has not answered his question as he expected. This request has all the characteristics to increase the likelihood that an appropriate response will be given, including satisfying all the conditions for sincerity. According to Labov and Fanshell (1977) if the listener does not deny or question one of the conditions, s/he implicitly accepts the request and so has the obligation and right to respond. For some reason, the peer does not meet his obligation to respond. Referring to G., it was a risk perhaps to ask a peer for assistance in the first place, and to ask a second time was perhaps just too great a risk.
Also evident in the preceding excerpt is G.'s not persisting in his requests for clarification, in this case a request for confirmation, in response to a peer's utterance. Another example of a request for confirmation that goes unanswered from another peer is as follows:

G - How do you spell mountains?
R - (spells aloud) m-o-u-n-t-
G - -n?
R - -a-i-n.
G - you put an "n", right?
R - (no response; continues writing his answer)
G - (looks at R.'s paper to get correct spelling)

In both excerpts, the peers did not provide the needed acknowledgement for G.'s requests for confirmation. There could be a number of reasons for their non-response to G.'s request for confirmation, including a preoccupation with the activity, a lack of experience with acknowledging someone's request for confirmation, or simply that they felt he could get the information himself. G. does just that, for he ends up looking at his peer's answer thus obtaining a response to his request for clarification. In all cases, G. does not persist with his requests for confirmation, perhaps not wishing to interrupt further, yet in so doing, not exercising his right to request clarification from his conversation partner.

However, at other times, G. does persist with a request for clarification several times in a sequence. This is shown in the following excerpt as G. and his partner, J., get help from another classmate, C., to help them answer a question:

G - What do we tell?
C - Tell how a cone tells the weather.
G - Tell how a cone tells the weather?
C - Yeah, look at that.
   (pointing to paragraph in reference book)
G - Look at what?
C - This paragraph, G.
   (pointing to paragraph)
J - (reading paragraph in response to C.'s help)
Yeah, you have to think.
G - What? (looks intently with puzzled look at J.)
J - (begins to write answer)
G - (reads J.'s answer)
  Oh, the cone is open when it's dry and
  closed when it's wet.

In this excerpt, G. receives an appropriate response to
his initial request, however, he needed to request
clarification. Although all of his requests for
clarification receive an appropriate answer, in the end, G.
again obtains the answer to his initial request through
looking at the peer's written response. This seems to
indicate that although he requests clarification and
receives appropriate responses to those requests, he
sometimes has to and does seek other ways of obtaining the
information he needs.

G. also uses neutral requests for repetition (huh? or
what?) as another means of requesting clarification. This
is illustrated in the following excerpt:

  G - What's number six?
  J - Lumbermen and forest workers.
  G - What?
  J - lumbermen and forest workers.
  G - (writes answer)

Finally, G. uses a third type of request for
clarification, specific requests for repetition, (put a
what?), as shown in the following:

  G - What do we do here, N.?
  N - You use another piece of paper.
  G - another what?
  N - a paper for the bar graph.

In all, G. received fifteen appropriate responses to
his twenty-one requests for clarification. This seems to
indicate that G. accepts his social responsibility as a
conversationalist to signal instances of miscomprehension to
his partner and he knows the appropriate form to use (Fey et
al., 1988). Also, as noted by Hoskins (1989) and Fey and Leonard (1983) this initiation of a request for clarification, and frequent persistence with such requests, once again reflects a degree of assertiveness. In addition, as the classroom provided a very good listening environment acoustically, perhaps one would find an increased frequency of requests for clarification in less ideal listening conditions.

In four other instances requiring a request for clarification, G. fails to respond with an utterance to a communication breakdown, showing only an expression of puzzlement or smiling. Fey et al. (1988) feel this might indicate that the student is aware of a communication breakdown but doesn’t know how to respond. The following excerpt illustrates an example of this type of request for clarification:

G - (giving paper to J)
   You write J.
J - Well, it says both partners.
G - (looks and leans toward J. puzzled)
J - We both need to write a letter.
G - Oh.

Fey et al. (1988) go on to suggest that students who exhibit these subtle indications of awareness of comprehension difficulty may require intervention that informs them of their conversational obligation to be more assertive and signal misunderstanding to the speaker. As already noted, G. knows other forms of requests for clarification so this nonverbal response is perhaps just another in his repertoire, yet it is the choice that demands the least effort when requesting more information from peers.

Summary

As the purpose of this study was to ascertain the use of the Effective Speaker Model with a mainstreamed student
who is hearing impaired, the question to be addressed here was:

*Can the Effective Speaker Model be used to assess the requests and responses of a mainstreamed student who is hearing impaired in student-directed activities?*

Wilkinson and Calculator (1982) define an effective speaker as one who makes requests that are on-task, sincere, directed to a listener, and direct, and revised when initially unsuccessful. According to the data in this study, a number of observations might be made about the nature of G.'s requests and responses to peers. G.'s requests are generally on-task, designated to a listener, and direct. However, his requests do not always satisfy the conditions for being sincere. When his requests are not sincere, he does not receive an appropriate response from his peers. He does revise requests using a number of strategies including designating the listener, and rewording his requests, however he does not always persist with his revisions until he receives an appropriate response. When persisting with understanding a peer response, he uses several types of requests for clarification. Both his persistence with revisions and requests for clarification indicate a degree of assertiveness.

Fifty-five of G.'s eighty-six requests received appropriate responses from peers after the initial request or after a revision. This indicates that G. was able to secure appropriate action and information from peers 64% of the time. Wilkinson and her colleagues (1982, 1983, 1984, 1986) found that students in grades one, two, and three were effective in obtaining appropriate responses to requests more than two-thirds of the time, or 67% of the time. Specific examples of effective speakers, were those who were successful in obtaining compliance to requests ranging from 64% to 80% of the time. Examples given of students who were ineffective speakers were successful in obtaining compliance
to requests ranging from 30% to 40% of the time. Thus, G. might be said to be an effective speaker, yet, as discussed, there are aspects of his requests that he might change in order to receive a greater number of appropriate responses to his requests.

Applicability in assessment of students who are hearing impaired. This coding system is useful because it provides a framework for categorizing the observational data and developing a profile that graphically presents these characteristics of the student's requests and responses to peers. The peaks and valleys of such a profile direct one to question and seek patterns from the observational data - Why only __% appropriate responses to requests?, Why only __% revisions?, Is there a relationship between these and the __% sincere requests?. By going back to the data, specific examples can be found for an in-depth description of why requests do not receive an appropriate response from peers. From this information, specific characteristics of the students' requests can be identified for instruction in an attempt to increase the likelihood that the student's requests will receive an appropriate response from peers.

Inclusion of requests for clarification. In their Effective Speaker Model, Wilkinson and Calculator (1982) do not specifically refer to requests for clarification as a separate characteristic to consider when coding effective requests. However, requests for clarification emerged in this study as a means of persisting to understand a peer response to a request, and hence as another turn in the request-response sequence. The request for clarification does not change the number of appropriate responses a student receives, but is an aspect of the student's behaviour in understanding the response given. As requests for clarification are used by all listeners as attempts to repair communicative breakdown (Fey et al., 1988), it would
seem to be a characteristic to consider in any conversation dyad. However, as noted in Chapter II, it is perhaps an aspect of the request-response sequence to consider especially if one partner is hearing impaired as there is a greater potential for communication breakdown. Hence, requests for clarification as a response to a peer response may occur more frequently when one partner in a conversation is hearing impaired and perhaps should be included when using the Effective Speaker Model to assess students who are hearing impaired.

In summary, the Effective Speaker Model is a usable framework within which one can classify and describe the nature of requests and responses of a student who is hearing impaired when interacting with peers, remaining open to patterns that may emerge in addition to those already established. Not only can one determine the degree to which the student is successful in obtaining appropriate responses to requests for action and information, but also the manner in which this is carried out. As stated in Chapter II, the success a student experiences in receiving responses to his/her requests has both academic and social implications.
CHAPTER V
CONCLUSIONS

Implications

Although ethnographic techniques that use the classroom for data collection demand both time and greater cooperation between the itinerant teacher and the classroom teacher, the information obtained has implications for the roles of both these teachers as well as the mainstreamed student who is hearing impaired and his/her peers.

Green and Wallat (1981) discuss the need for teachers to be active participants in their classrooms as researcher/diagnosticians. As the case manager for a mainstreamed student who is hearing impaired (Ross et al., 1982), the itinerant teacher might initiate collaboration with the classroom teacher in assuming these roles. The methodology of the study offers teachers the tools for conducting valid and important research in their classrooms (Burton, 1986; McConaghy, 1986). As researchers/diagnosticians, the teacher could gain information leading directly to immediate and purposeful intervention, and also gain information to add to current knowledge regarding interaction between students who are hearing impaired and peers in the regular classroom. Smith (1978) outlines a process showing ethnographic research leading to revision of educational practice. This study would seem to be very much a part of that process.

To accomplish the dual role of researcher/diagnostician, an approach similar to that as outlined by Ripich and Spinelli (1985b) might be established. The five-step approach suggested here could become a part of the battery of tests an itinerant teacher currently uses to complete a comprehensive communication assessment. The five steps in such an approach might include:

Step One: Gaining access to the classroom
Step Two: Observing interaction in the classroom
Step Three: Coding and description of observations
Step Four: Individual assessment and interviews
Step Five: Summary and recommendations for the student’s program

Step one would involve clearly establishing the respective roles of the itinerant and classroom teachers. This would include setting up regularly scheduled and ongoing participant observation in the classroom throughout the school year, clarifying the itinerant teachers’ role as observer-as-participant, and arranging a timeline for the assessment.

Steps two and three would involve collecting and coding the observational data using the formats presented in Appendices A and C. As stated earlier, the relatively simple and objective coding classifications should provide a practical and readily usable tool for teachers. As with using any new tool, practice in both observing and coding should render the methods usable.

Step four would involve using the observational data as a language sample base from which to probe further in specific areas of comprehension and production including perhaps both the syntactical structure and semantic clarity of the requests. In addition, gaining the viewpoints of the classroom teacher and the students through structured and unstructured interviews would assist in describing the interaction observed.

Step five would involve the itinerant and classroom teachers discussing the information obtained from the classroom observations as well as individual assessment, and possible options for a plan of instruction.

The Effective Speaker Model is detailed enough for a teacher to determine specific target behaviours. These targets could be determined from the characteristic profile and descriptive information to focus on such aspects as: direct, on-task, sincere, designated to a listener, requesting clarification and revised when needed. In addition, the same data could be used for other types of
analysis - syntax, semantics, and other pragmatic aspects of interaction. The examples for instruction and practice in these areas can be taken directly from the recorded conversations so will be very relevant for the student. As Hutson (1981) points out, by teaching a teacher to be an ethnographer, the teacher is given methods to gain knowledge that can be used directly for instruction. The intervention based on this assessment would seem to have optimal chance of carrying over into the student's everyday life because the focus of intervention is coming directly from the child's communication environment. Through this purposeful instruction in conversation skills derived directly from the observational data, the student can become a more skilled participant in conversation with peers. Not only can the student become a more skilled participant in interaction, but s/he can also become a more contributing participant in the interaction.

More appropriate pre-teaching or preparation for the up-coming activity could be provided as a result of greater collaboration between the itinerant and classroom teachers. Consequently, the student should be better prepared to be an active contributing partner. As the student becomes a more confident contributor in the interaction, being perceived by others as able to give information, s/he is more likely to be the one who also receives new information from peers (Cooper et al., 1982). As a result, the student will benefit academically, for children who are known to be competent are approached by others to be asked questions and to be given answers and information by other knowing children. However, the student may not only benefit academically from this improved interaction, but he could benefit socially in improved feelings of self-worth and importance. As Johnson et al. (1986) emphasize, when the student views him/herself as a contributing and cooperative partner, his/her feelings of self-esteem and self-acceptance are improved. In addition, as the student is viewed by
peers as a contributing and cooperative partner, there is an expectation of further rewarding and enjoyable future interaction with the student. This, in turn, leads to greater motivation for the task at hand and, presumably, enhanced learning of the content.

Furthermore, as the itinerant teacher would already have gained access to the student's classroom, s/he would have a number of options regarding the most appropriate setting within which to provide the instruction. The method of instruction for this interaction might include any of the following: in collaboration with the classroom teacher, through the planning of small-group cooperative activities; through incidental teaching while participating in the regular classroom activities as an observer-as-participant; or in traditional one-to-one sessions with the student removed from the classroom.

With regards to planning small-group cooperative activities in the classroom, the observational information could assist the teachers in choosing the most appropriate partners for various activities.

Although the mainstreamed setting has been the educational setting for this study, the use of the Effective Speaker Model and the implications suggested here would seem to be as applicable to other educational settings to assess a student who is hearing impaired interacting with both hearing and hearing impaired peers.

Although there are positive and interesting implications, the study has a number of definite limitations that warrant discussion.

Limitations

The researcher's lack of knowledge and experience in the role of participant observer and the use of ethnographic methods is a limiting factor. The efficacy of reflection during the recording of observations and the subsequent triangulation procedure are of particular concern. These
are both important procedures for enhancing the validity of interpretations. The more experienced the participant observer, the more capable one is at asking the right questions to complement the observations and support or refute interpretations. This limitation can only be alleviated as the participant observer continues to use ethnographic methods and gains confidence and expertise through practice.

Since this study was concerned with testing the applicability of the model, the results may be considered as of secondary importance. However, small sample size does caution against overgeneralization of the results to other settings. As the model was not used with a large group, but with only one student in one situational context, there is the question of external validity, or generalizability. However, it is very common to find only one student who is hearing impaired in a given mainstream educational setting and hence the natural situation that was present for the researcher.

Gaining access is the first and most important step in participant observation (Corsaro, 1981; Wilson, 1977). However, this poses a threat to validity as the presence of an observer may affect the nature of the data collected. In this study, it was felt that both physical and psychological access to the classroom was obtained. As the researcher was in the classroom from the beginning of the school year, September, and didn’t begin to record data until January, this would seem to be a sufficient length of time to decrease possible observer effects.

Flexer and Wood (1984) maintain that the more visible the hearing aid, the more the visual stigma, and this results in less natural interaction with others. Perhaps the FM system influenced interaction between G. and his peers, and different patterns may emerge if G. wore only his personal ear-level hearing aids. However, the FM system is
the current amplification choice for G. and as such is a part of the natural setting examined.

In summary, of the six criteria outlined by Smith (1978) to increase validity, the study has met all criteria to some degree: direct on-site observations, freedom of access, intensity of observation, both quantitative and qualitative data collection and analysis, triangulation and multimethod use, and a sample of data representative of the natural event.

Reliability threatens the credibility of any observational study (LeCompte & Goetz, 1982). Interobserver reliability was not achieved in this study as only the researcher observed and coded the observations. However, as outlined by LeCompte and Goetz (1982), to reduce this problem of internal reliability the recorded observations are as precise and detailed as possible.

Related to this, as only the researcher coded the observational data, the study lacks inter-judge reliability during the coding process. However, the codes are clearly defined requiring only a yes/no decision or, when describing type of revision or request for clarification, a decision from a maximum of five clearly defined choices. This researcher would expect little discrepancy in decisions of coding due to the objective nature of decisions. If there were a number of discrepancies regarding frequency of characteristics, this would not greatly affect the usefulness of the model for it is the verbatim accounts of what was said and the multiple examples of excerpts that substantiate the coding (Smith, 1978).

The findings of this study suggest possible aspects for future research.

Future Research

As the model was tested here with only one student in one educational setting, its applicability with students who are hearing impaired could be further tested in different
educational settings. Through related research in a variety of educational settings, data could be gathered on a larger number of students, across ages, with varying degrees of hearing loss. In so doing, one could ascertain whether or not the model is applicable for assessing the requests and responses of different populations of students who are hearing impaired in a variety of educational settings.

Also, changes over time might be documented through the characteristic profile, either to note changes in a student's ability from the beginning to the end of one school year, or from one year to another.

Opportunity for interaction was both purposefully provided and encouraged by the classroom teacher in this study. Every activity was a cooperative learning activity with specific objectives for student interaction. As a result of this effort on the part of the teacher, more interaction perhaps occurred in this particular classroom than might have occurred in another setting. Future research might compare a student's requests and responses with peers in classroom activities that emphasize cooperative learning and during classroom activities that do not emphasize cooperation, thus determining whether or not the characteristics of the students's requests are different depending on the learning tasks.

Completing the individual assessment of speech intelligibility in a relatively quiet room gave a measure of how well the students understood each others' speech, however these may not generalize to varied classroom listening conditions. In future research, an assessment of speech intelligibility could be carried out within the classroom so as to more closely approximate the listening conditions of the natural setting. In addition, the listening conditions within the classroom in this study were perhaps better than usual due to the physical characteristics of the room and the efforts by the teacher in providing guidelines for communication - eye to eye and
knee to knee. As a result, the interaction observed between G. and his peers could be quite different in another classroom with another teacher. Research to include the same student in classrooms with various listening conditions might be a consideration.

Although the standardized test measure of G.'s reading ability was felt to be adequate, in future research a curriculum-based assessment using the subject textbook for an informal assessment could yield a more realistic measure of his ability to read the material in the activities.

Future research might consider videotaping the interaction as this would allow repeated viewing and verification of questionable utterances. In addition, videotaping would allow the researcher to replay sequences and ask questions in the triangulation process directly related to a given sequence (Corsaro, 1981).

Regarding the inclusion of requests for clarification when assessing a student who is hearing impaired, future research might examine whether there are specific characteristics of these requests that will increase the likelihood of receiving an appropriate response and investigate the frequency of these requests for both the student and his/her peers.

Finally, this study has focused on the characteristics of a student's requests to peers, and not on his/her responses to requests from peers. In examining the student's responses to peer requests, one could determine, firstly, if peers request information from the student who is hearing impaired and secondly, the nature of his/her responses to these peer requests. Cooper et al. (1982) and Webb (1982a, 1982b) have both shown this to be of importance academically and socially.

In summary, this study has attempted to add new information to the field of education of the hearing impaired. Studies have shown that students who are hearing
impaired do not always have communication skills that enable them to be both competent and confident partners in a conversation. The results of this study indicate that teachers of students who are hearing impaired can become participant observers in their students’ classrooms thereby gaining specific information about the nature of interaction between the students and their peers. With this information, appropriate instruction may be purposefully planned and implemented, thus benefitting the students both academically and socially.
REFERENCES


Appendix A: Observations
Appendix A: Observations (Example)

STUDENT: G.

DATE: April 4, 1989

SUBJECT: S.S. 5

SEATING PLAN:

ACTIVITY: Students working in pairs at stations re: forestry. G. and J. working on same station as last day, Coniferous Cones. They are required to read reference book and answer questions. Partners are to hand in only one sheet with the answers that they have both agreed on and have taken turns to write.

FN: (Field Notes)  
G - Do we need this book?  
   (pointing to one of several)  
J - Yes, we do.  
   (takes book; opens to correct page)

TN: (Theoretical Notes)  
light:
distance:
amplification:
background noise;
outside:
inside:
peer speech:

G - OK, here's the first question, J.: How can cones be used to forecast the weather?  
J - I don't know.  
C - We know.  
   (Classmate next to G and J offers help)  
It's this one right here.  
   (pointing to paragraph of information)
in the reference book)

G - What do we tell?
C - Tell how a cone tells the weather.
G - Tell how a cone tells the weather?
C - Yeah, look at that.
   (pointing to paragraph in the
   reference book)
G - Look at what?
C - This paragraph, G.
   (pointing to paragraph)
J - (reading paragraph in response to C's
   help)
   Yeah, you have to think.
G - What?
   (Looking intently with puzzled look
   at J)
J - (begins to write answer)
G - (reads J's answer)
   Oh, the cone is open when it's
   dry and closed when it's wet.

PN: (Personal Notes)
G. used a number of requests for clarification - are they
sincere or could he be more independent in thinking and
figuring things out for himself?
Appendix B: Student and Peer Speech Intelligibility

a) Open-ended questions for eliciting spontaneous speech

b) Speech intelligibility rating
Appendix B: Open-ended questions for eliciting spontaneous speech to rate speech intelligibility

1. What is your favourite T.V. show?

2. What kinds of things do you like to do on the weekends?

3. What hobbies do you have?

4. Have you seen any movies or videos lately?

5. What sports do you like watching or playing?

6. What will you do during the summer?
Appendix B: Student and Peer Speech Intelligibility Rating

Speech Intelligibility Rating (Monsen, 1981)

<table>
<thead>
<tr>
<th>% Correct</th>
<th>Description</th>
</tr>
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<tr>
<td>90-100</td>
<td>Excellent achievement in speech intelligibility. Naive listeners can understand most of the child's speech at first introduction.</td>
</tr>
<tr>
<td>80-89</td>
<td>Good achievement in speech intelligibility. Naive listeners will &quot;miss&quot; occasional words in sentences, but will understand most, and the communication process on the whole is smooth.</td>
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<tr>
<td>70-79</td>
<td>Listeners experience difficulty in understanding the intended message. But communication can nevertheless take place, though with noticeable difficulty.</td>
</tr>
<tr>
<td>60-69</td>
<td>Listeners experience great difficulty in understanding simple material. The communication process is labored and difficult.</td>
</tr>
<tr>
<td>59 &amp; below</td>
<td>Listeners are confronted with overwhelming difficulty in understanding what is said. Only occasional words can be picked out of the flow of speech. Even experienced listeners will have great difficulty in understanding what is said. Communication begins to center upon the conveying of nouns, often by means of gesture.</td>
</tr>
</tbody>
</table>

Peers understanding responses of the student who is hearing impaired:
Peer 1: ___ % Accuracy
Peer 2: ___ % Accuracy

Student who is hearing impaired understanding peer responses:
Peer 1: ___ % Accuracy
Peer 2: ___ % Accuracy
Appendix C: Coding of Requests and Responses to Peers
and
Coding Summary
Appendix C: Coding of Requests and Responses to Peers

Requests
RA = Request for Action
RI = Request for Information

Characteristics
OT = On-Task
S = Sincere
DL = Designated to a Listener
D = Direct

Revisions
NR = No Revision
R = Repeated
RW = Reworded
C = Characteristic indicated

Requests for Clarification (RQCL)
NV = Nonverbal response
NRR = Neutral Request for Repetition (huh?)
RC = Request for Confirmation (1979?)
SRS = Specific Request for Specification (What did he do?)
SRR = Specific Request for Repetition (The man what?)

<table>
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<tr>
<th>Utterances</th>
<th>Requests</th>
<th>Characteristics</th>
<th>Appropriate Response</th>
<th>Revisions</th>
<th>Appropriate Response</th>
<th>RQCL</th>
<th>Appropriate Response</th>
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<td></td>
<td>RA</td>
<td>RI</td>
<td>OT  S  DL  D Yes No</td>
<td>Kind NR</td>
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<td>1. G</td>
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<td>Yes</td>
<td>Yes No</td>
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<td>2. J</td>
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<td></td>
<td>Yes</td>
<td>Yes No</td>
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<td>3. G</td>
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<td>4. J</td>
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<td>5. C</td>
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<td>6. G</td>
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<td>Yes</td>
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<td>7. C</td>
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<td>8. G</td>
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<td>10. G</td>
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<td>12. G</td>
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<td>13. J</td>
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<tr>
<td>14. G</td>
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<td>Yes</td>
<td></td>
<td>Yes No</td>
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</tbody>
</table>

RC = Response Confirmation
RC = Request Confirmation
NRR = Neutral Request for Repetition
Appendix C: Coding Summary

Utterances:
Peers
Student who is hearing impaired

Requests:
RI = Requests for Information
RA = Requests for Action

Characteristics of Requests:
OT = On-Task
S = Sincere
DL = Designated to a Listener
D = Direct
AR = Appropriate Responses received

Revision of Requests:
NR = No Revision
R = Request repeated
RW = Request reworded
C = Characteristic indicated
AR = Appropriate Responses received

Total requests revised when initially unsuccessful:
(Consider requests that were insincere therefore a change in value for possible revisions)

Requests for Clarification:
NV = Nonverbal response
NRR = Neutral Request for Repetition
RC = Request for Confirmation
SRS = Specific Request for Specification
SRR = Specific Request for Repetition
AR = Appropriate Responses received

Total requests for clarification

Total number of requests for action and information that receive an appropriate response from peers:
Appendix D: Triangulation: Student Interviews
Appendix D: Triangulation: Student Interviews

Questions to Student who is Hearing Impaired

1. Why is it hard to understand what other students say when you ask them a question?
2. What’s different about how I answer your questions and how your partner in class answers you?
3. When you asked N. if you could find another word for yuck in the thesaurus, I noticed that he became impatient. Why do you think he did?
4. What’s different about working with E. and asking her questions about S.S. and working with J.?
5. Who writes more answers, you or J.?/ E.?

Questions to Peers

1. What was it like to be G.’s partner? Was it harder, easier, or the same as working with another student?
2. What’s it like when G. asks you a question?
3. If you don’t understand what he says, what do you do?
4. Were there any times when it was really hard to understand each other? What did you do?
5. What kinds of things do you think help G. and you to understand each other when you’re talking in S.S.?
6. Does G. do his share of the work in S.S.?