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ERROR FEEDBACK IN ADULT ESL CLASSROOMS

BY

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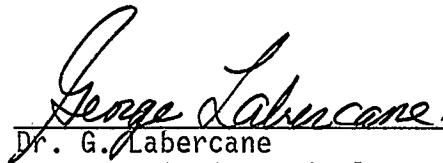
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ABSTRACT

The Purpose

The purpose of this study was to explore the variable of error feedback, a pedagogical behavior, and its relationship to interactor type, a learner characteristic, in order to understand further the variables and processes involved in formal adult second language learning. The first variable, error feedback, is a crucial ingredient in formal adult language learning environments (Krashen and Seliger, 1975) and the second variable, interactor type has been established as a determining variable in second language acquisition (Seliger, 1977).

The Study

Two adult ESL classes were videotaped to serve as settings for the study of the two variables. Two opposite types of interactors were identified following procedures established by Seliger (1977) who classified high input generators (HIGs) as learners who intensively seek opportunities to practice the target language, and low input generators (LIGs) as learners who are passive interactors. The frequencies and types of error feedback were measured for three HIGs and three LIGs identified in each class. This error feedback was measured and classified according to Nystrom's (1983) classification as overtly corrective responses, those which are openly corrective, covertly corrective responses, those which are

indirect corrections and prompt or cue the learner to self-correct, or non-corrective responses, those which have no corrective function.

The data were measured using chi-square tests. The first analysis was performed to determine whether HIGs received significantly different frequencies of corrective error treatments, including overt and covert corrections, than did LIGs. A second analysis determined whether HIGs received significantly different frequencies of overt and covert corrections than did LIGs. Qualitative data describing the classroom participants, their context and activities provided supplemental information for the interpretation of the quantitative data.

The Findings

It was found that HIGs received proportionately fewer corrective error treatments than did LIGs. It was also found that LIGs tended to receive proportionately more overt corrections than HIGs and that HIGs received proportionately more covert corrections than LIGs. These results suggest that some classroom behaviors, such as active classroom participation by students, and specific responses to error by teachers such as covert corrections and non-corrective responses could be encouraged to promote successful language learning strategies in formal language learning environments.

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Chapter One

Introduction

The study of second language acquisition has revealed many factors contributing to the success of second language learners. Each learner is exposed to a variety of contextual influences that interact with personal attributes and result in individual differences. Schumann (1978) has provided a taxonomy of factors underlying second language acquisition that includes social, affective, cognitive, biological, aptitudinal, personal, input and instructional factors. In formal learning environments, the interactions of these factors result in behaviors unique to the context, as this contrived setting limits the activities and behaviors possible. The instructional factors listed by Schumann as goals, teacher, method, text, time, intensity, and means of evaluation, interact with the learner characteristics to yield variation in formal learning environments. Classroom oriented research aims at identifying the classroom variables that shape the instructional experience. Their significance has been acknowledged and according to Gaies (1980), there is a "growing conviction that what actually goes on in the language classroom is at the same time one of the least well-known but more important factors determining the effect of formal language learning" (p. 89). Through the observation of classroom processes, then, it should be possible to achieve a greater understanding of classroom

learning and teaching of a second language.

Response to Learner Errors

One important subject of inquiry in second language classrooms is response to learners' errors. As a natural part of classroom practice, second language teachers are faced with learner errors, and consequently with the decision of which errors to treat, if any, and of when and how to treat them. The investigation of the nature of error treatment may improve our understanding of learners' ways of learning and the teachers' contribution to learners' learning. Responses to error can affect learners' motivation, relationships between teacher and learner, and learners' confidence. The study of error treatment is also pedagogically significant as it may lead to developing techniques for dealing with errors that will help teachers improve their classroom skills (Allwright, 1975). To establish the significance of responses to error in formal language learning environments, an overview of the nature of this phenomenon follows, including definition, examples, and criteria which are considered in the selection of a response to error.

A response to an error refers to any reaction, verbal or non-verbal, by a participant other than the speaker that follows any type of perceived learner error--phonological, lexical, grammatical, discoursal or factual. In classrooms, the response may be corrective, in which case the teacher or a peer provides

the correct model, or it may be non-corrective in the sense that the teacher ignores the error and responds to the content of a student's utterance. The wide range of possible responses has been described by Fanselow (1977), Chaudron (1977a), Walz (1982) and Nystrom (1983). Some examples are: (a) modelling, that is, providing the correct response, (b) repeating the learner's utterance to stimulate self-correction, (c) gesturing, (d) repeating the learner's utterance and indicating the error, (e) simply waiting and anticipating self-correction, (f) asking students to repeat their original utterance, (g) asking another student to provide the correct response, and (h) presenting an alternative answer.

Selection of responses is dependent on variables such as type of error, level of instruction, pedagogical focus, teacher style and type of activity. These and other influential factors have been identified by Allwright (1975), Fanselow (1977), Chaudron (1977b), Long (1977), Hendrickson (1978), Nystrom (1983), and Gaies (1983). For example, pedagogical focus may dictate the error type chosen for correction. If teachers concentrate on a grammatical structure, they will likely correct grammatical errors. If they focus on the exchange of information, that is, communication, however, they will only correct errors that hinder a successful exchange. No standard criteria exist for response, and teachers' judgements vary greatly with respect to the utterance within the context.

Certain problems have been identified in attempting to study feedback to error. Fanselow (1977) found that teachers' treatments of errors sometimes occur in combinations, that they can be imprecise, ambiguous, and lack consistency. Both Allwright (1975) and Long (1977) suggested that the choice of treatment is a considerably complex reaction requiring immediate reflection, evaluation and decision-making. The complexity of the choice may be influenced by the teachers' attitude towards the role of errors in language learning. An understanding of the nature of errors in language learning is crucial to any discussion of the significance and effect of error feedback, since the two concepts are so closely related.

Different Views of Errors in Language Learning

Beliefs about the role of errors in language learning were revised in the late 60's when the behaviorists' habit-formation view of language was replaced by the cognitivists' view of language as a rule-governed system. The principles that guided the audiolingual approach reflect the behaviorists' view of language and language learning. Moulton (1961) summed up the five basic principles as:

1. Language is speech, not writing.
2. A language is a set of habits.
3. Teach the language, not facts about the language.

4. A language is what native speakers say, not what someone thinks they ought to say.
5. Languages are different.

Audiolingual classrooms were arenas of oral interactions where correct speech habits were reinforced through drill, pattern practice, mimicry and memorization, procedures intended to produce error-free utterances. Since behaviorists believed errors were bad habits to be avoided and eradicated, no errors were tolerated.

Current language theory, influenced by cognitive psychology, transformational-generative grammar, and studies on first language acquisition, treats language as a rule-governed system that evolves through hypothesis-testing and rule modification. It is proposed that language learners progress through stages of language development that are systematic and rule-governed. These transitional stages, referred to as idiosyncratic dialects (Corder, 1971), approximative systems (Nemser, 1971), or interlanguages (Selinker, 1972) are evidenced through systematic deviations, resulting from processes used by language learners such as overgeneralization of target language rules, transfer of training, strategies of second language learning, language transfer, and strategies of second language communication (Selinker, 1972, p. 215). An important source of evidence for the existence of these stages is errors. According to interlanguage theory, errors are a natural occurrence during language learning, as learners' grammars develop

through various stages that continue towards the target language norm. As Corder (1971) expressed it: "The making of errors is an inevitable and necessary part of the learning process" (p. 25). Errors display the learner's underlying knowledge of the language to date, an unstable rule system termed transitional competence by Corder (1967). Within this view, the learner is encouraged during the language learning process to hypothesize about the nature of the target language. Through trial and error, the learner tests hypotheses and receives feedback that allows him to reject, correct or confirm the hypotheses. The role of feedback becomes crucial for the learner to validate or invalidate the rules of his evolving system.

In accordance with this theory of hypothesis-testing and rule modification, a selective approach to error treatment has been proposed by Burt (1975) which demands that error treatment be dependent on a criterion of comprehensibility. She suggested that in initial lessons corrective treatment be given by teachers only for global errors, errors that significantly hinder communication (1975, p. 62). Hendrickson (1978) has suggested other criteria for error treatment, such as errors that occur frequently, and errors that have stigmatizing effects on the listener. A selective approach to error makes feedback more variable than the behaviorists' global approach since not all errors require treatment. Because it does not prescribe any particular response

to errors, classroom teachers are free to choose criteria for treatment as well as type of treatment. Some teachers choose corrective treatments, through direct or indirect techniques that correct the learners' utterances. Some teachers, however, choose to respond non-correctively to an error, accepting the learner's error in responding to the content of the utterance. The study of feedback to error should include all responses to errors, not only corrective treatments. Responses to errors are not dictated by any one factor in this current view of language learning. The classroom is seen, rather, as an environment in which there is a variable use of a wide range of possible responses.

The Communicative Approach

The error-response sequence is one of the many types of verbal interactions occurring in communicative language classrooms where teachers attempt to produce interactions which resemble the real-life communicative exchanges of natural conversation. Less teacher-directed activities permit more student input and can produce spontaneous use of the target language and exchanges of previously unknown information. Teachers who encourage such exchanges are striving for communicatively competent learners, those who can communicate or exchange information purposefully in a variety of contexts. The term communicative competence was first introduced by Hymes (1971), and has been adopted as a goal for language learners within the communicative language teaching approach.

Communicative competence is a dynamic concept that extends the notion of competence beyond the narrow limits of grammatical knowledge suggested by Chomsky (1965) to include the ability to use language appropriately in a variety of contexts. In describing this broader notion of competence, Hymes stated that:

We have to . . . account for the fact that a normal child acquires knowledge of sentences, not only as grammatical, but also as appropriate. He or she acquires competence as to when to speak, when not, and as to what to talk about with whom, when, where, and in what manner. (1971, p. 15)

Learners who are communicatively competent are aware not only of rules of usage, how to speak linguistically correctly, but also of rules of use, in other words, of social context. Savignon (1983) interprets the term communicative competence for language teachers as a context-specific concept that requires making appropriate choices of register and style in terms of situations and other participants (for more details, see Chapter Two). This goal is accomplished through interaction that is less teacher-directed and more learner-centered. The teacher assumes a variety of roles to permit learner participation in a wide range of communicative situations including pair and group work in which the learner is less dependent on the teacher. The resultant communicative interaction may help second language learners to control "what goes

in." Corder (1967) contrasts the language to which the learner is exposed with the language which can be used:

The simple fact of presenting a linguistic form to a learner does not necessarily qualify it for the status of input, for the reason that input is "what goes in," not what is available for going in, and we may reasonably suppose that it is the learner who controls this input, or more properly his intake. (p. 165)

Communicative and meaningful interaction appears to be a fruitful activity which provides learners with opportunities that promote this transformation of input to intake, aiding in the production of communicatively competent second language speakers.

This communicative approach to language teaching aims for more learner-centered interaction. Learners assume active roles and a responsibility for their own learning, as they interact on an individual level to transform input into intake. The learner plays a major role in the language classroom. Diverse learner characteristics affect the roles and behaviors displayed in the classroom. Some of these characteristics may contribute to or detract from the active role which is necessary to support language development. Age, sex, educational history, ethnic background, learning style and personality factors, such as extroversion/introversion, tolerance for ambiguity, sensitivity to rejection and self-esteem each play a role in determining a learner's behavior in

the second language classroom. Although these characteristics cannot be controlled, certain types of behavior associated with successful second language learning can be encouraged. The study of strategies used by successful language learners provides direction to educators in promoting particular productive behaviors. Both Rubin (1975) and Carroll (1977) identified the strategies of searching for opportunities to practice the target language and actually practicing it as characteristic of successful language learners. Seliger (1977) also found practice an essential aspect of successful second language learning in his classification of learners according to interaction patterns. His interactor types reflect two opposite types of learners, those who actively seek opportunities to practice the target language and those who are passive interactors. Having established interactor types as a determining variable in formal second language learning, Seliger claimed that the communicative approach provided the kind of practice essential for both types of interactors.

A communicative classroom provides the learner with more opportunities for communicative interaction than did the audiolingual classroom. Teachers in audiolingual classrooms directed interaction by using manipulative teaching techniques that controlled both the subject and form of the exchanges, resulting in stilted, unrealistic language. Errors were treated overtly in all cases irrespective of type of activity, pedagogical

focus, or individual student differences. Currently, however, teachers have adopted a more communicative approach, one which encourages more learner input and less teacher-centered interaction. Feedback to errors may not always be in the form of overt correction. Teachers may prompt students to correct themselves or respond non-correctively to the content rather than the form of the utterance. Teachers' consideration of contextual influences in selecting responses to error results in a phenomenon that is variable and distinctive.

The Present Study

Hamayan and Tucker (1980) agree that, "Reactions to error constitute an important area of future research since feedback provided to language learners concerning their utterances must be an essential component of the hypothesis formation that is part of the language learning process" (p. 467). The present study explores some specific questions about the relationship of this phenomenon to the learner characteristic of interactor type since both are significant in the process of second language learning. Do high interactors receive more corrective feedback than low interactors? Do low interactors receive different types of feedback than high interactors? Is the learner who interacts often corrected overtly or prompted to correct him or herself? Do teachers correct high interactors in spontaneous exchanges? Answers to these questions within a study of the relationship between interactor type and

responses to error in second language classrooms may indicate some direction for teachers in their efforts to provide the optimum opportunity for the language learners' development of second language proficiency and complement existing knowledge about classroom learning and teaching of a second language.

Chapter Two

Review of Background Literature

Introduction

A language teaching approach, based on a particular view about the nature of language and language learning, can dictate the administration of error treatment in the classroom. Two opposing approaches to error treatment are displayed by followers of the audiolingual approach and the communicative language teaching approach. These two represent the extremes of the many possible language teaching approaches and reveal the effects in the classroom of opposing views about the nature of language. Audiolingualists treat errors as unacceptable. Brooks (1964) stated, "Like sin, error is to be avoided and its influence overcome, but its presence is to be expected" (p. 58). On the other hand, communicative language teachers treat errors selectively, using a variety of criteria to evaluate the seriousness of an error, and encourage communication rather than error-free utterances. Chastain (1971) wrote, "More important than error-free speech is the creation of an atmosphere in which the students want to talk" (p. 249). Such a theoretical distinction can only be clearly understood through examination of the bases of these two language teaching approaches, that is, through examination of how language and language learning are defined by each approach. These bases have traditionally evolved from

influential theories in the fields of psychology and linguistics.

The Roots of the Audiolingual Approach

The audiolingual approach originated in the late 40's and was widely practised during the 60's and early 70's. It derives its fundamental principles from descriptive linguistics and behaviorist psychology. Descriptive linguists were interested in the structural description of language. Contrary to the prior stress on historical linguistics and the study of written manuscripts, the descriptive linguists shifted the focus of linguistic study to oral language, in particular unwritten Indian languages. They claimed that each language is a unique system, that language is primarily an oral phenomenon, and that native speakers cannot describe their own language system. Bloomfield (1942), a primary figure in the movement of descriptive (or "structural") linguistics, stated, "The command of a language is not a matter of knowledge: the speakers are quite unable to describe the habits which make up their language" (p. 12).

This view of language was strongly supported by behaviorist psychologists. Behaviorist psychology offered a theory of learning that was based on descriptions of observable behavior. This theory was applied to human language learning by B. F. Skinner (1957) who described verbal behavior, like other learned behavior, as a mechanical process shaped by conditioned responses. He wrote:

In all verbal behavior under stimulus control there are three important events to be taken into account: a stimulus, a response, and a reinforcement. These are contingent upon each other, as we have seen, in the following way: the stimulus, acting prior to the emission of the response, sets the occasion upon which the response is likely to be reinforced. Under this contingency, though a process of operant discrimination, the stimulus becomes the occasion upon which the response is likely to be emitted. (p. 81)

Behaviorists, then, regarded language as a learned set of habits and language learning as a process of habit formation in which feedback or reinforcement played a key role in shaping correct habits.

As noted earlier, five central tenets, described by Moulton (1961), help to display the behaviorist or empiricist notion about the nature of language and language acquisition. The first tenet states that, "language is speech, not writing," exemplifying the importance of the spoken language, the need to know how to converse rather than to read or write. This is reflected in the name of the approach which adopted these tenets, audiolingualism, which refers to listening (audio) and speaking (lingual) skills. The second, "a language is a set of habits," adheres to the extreme Skinnerian view as well as to the descriptive linguists' view that

people are either mimicking or analogizing the learned habits of others when they speak. "Teach the language, not about the language," is the third tenet, which suggests stimulating a set of conditioned speech habits by students who, according to this viewpoint, do not consciously follow rules when speaking; rather they simply mimic and analogize. The fourth tenet, "a language is what native speakers say, not what someone thinks they ought to say," expresses the behaviorists' notion of proper grammar rules and their concept of grammaticality. The criterion for grammaticality is native speakers' speech, hence memorization of authentic sentences spoken by native speakers is crucial. "Languages are different," the last tenet, implies that there are no linguistic universals. This suggests that a new language be approached as a completely new set of habits whose features are distinct from those of any other language. These five tenets summarize the general axioms followed by the audiolinguists, who drew from the behaviorist psychologists' and descriptive linguists' theories of language. In applying these tenets to second language learning, audiolinguists only allow practice of correct utterances through mimicry, memorization and drill practice, and they reinforced these correct utterances with immediate feedback.

Errors within this Approach

Descriptive linguists and behaviorists regarded errors as

bad habits, habits that interfered with successful mastery of the target language. Interference, according to Lado (1964), is the "added difficulty in learning a sound, word, or construction in a second language as a result of differences with the habits of the native speaker" (p. 217). Interference, then, refers to the influence of old habits when new ones are being learned. Errors that resulted from interference could be predicted through contrastive analysis, a comparison of the learner's native language with the target language to reveal the differences between the two. These differences were thought to create some of the problems encountered by language learners. Contrastive analysis allowed teachers and curriculum developers to anticipate errors and plan accordingly. Fries (1945) believed, "The most effective materials are those that are based upon a scientific description of the language to be learned, carefully compared with parallel descriptions of the native language of the learner" (p. 9). Educators were unsuccessful, however, in erasing errors from language learners' speech, even when they utilized such materials. Although the audiolingual approach allowed only practice of correct utterances through drill and mimicry-memory procedures, errors still occurred. These were treated through the immediate presentation of a correct model (Brooks, 1964). This view held by audiolingualists is in sharp contrast to that held by followers of the communicative language teaching approach which is

based on an alternate view of language.

A Shift in Thinking about Language and Errors

A change in thinking about language occurred during the 50's and 60's. This change was strongly influenced by generative linguists, in particular Chomsky, studies in first and second language acquisition and cognitive psychology. The empiricists' approach to language, a mechanistic view, was challenged by developments in these areas and a mentalistic view of and a rationalist approach to language emerged, which recognized the language learner as an active participant who used internal mental processes to acquire language.

In the literature of the 50's and 60's, some linguists questioned the behaviorists' habit-formation theory of language and proposed alternate explanations of verbal behavior. Chomsky (1959), for example, opposed Skinner's (1957) theory of verbal behavior. In a review of Skinner's work, Chomsky wrote:

Skinner's thesis is that external factors consisting of present stimulation and the history of reinforcement are of overwhelming importance, and that the general principles revealed in laboratory studies of these phenomena provide that basis for understanding the complexities of verbal behavior. He confidently and repeatedly voices his claim to have demonstrated that the contribution of the speaker is quite trivial and

elementary, Careful study of this book reveals, however, that these astonishing claims are far from justified. (1959, pp. 26-27)

Chomsky offered his alternative view, a view that recognized the learner's ability to create novel utterances. He wrote:

We constantly read and hear new sequences of words, recognize them as sentences, and understand them. It is easy to show that the new events that we accept and understand as sentences are not related to those which we are familiar by any simple notion of formal (or semantic or statistical) similarity or identity of grammatical frame It appears that we recognize a new item as a sentence not because it matches some familiar item in any simple way, but because it is generated by the grammar that each individual has somehow and in some form internalized. (1959, p. 56)

For Chomsky, then, language was a creative, rule-governed behavior. It was creative because of a speaker's ability to create an infinite number of novel utterances; it was rule-governed because these utterances displayed a systematicity governed by some structured system, termed a generative grammar. Chomsky (1965) defined generative grammar as "a system of rules that in some explicit and well-defined way assigns structural descriptions to

sentences" (p. 8). This generative grammar was not conscious knowledge and represented a speaker's competence, or the "unconscious" knowledge of one's language. A new view of language was taking shape, a view that sharply contrasted with a habit-formation notion of language.

Studies in first language acquisition have contributed further insights about language and the significance of errors. Child language acquisition studies have revealed that children everywhere produce errors while acquiring their first language. Children's errors are often ignored unless they interfere with the intended meaning of the utterance. Listeners may repeat and expand the child's utterance in an adult version, providing a form of feedback for the child's developing language. Corder (1967) explained:

We interpret his 'incorrect' utterances as being evidence that he is in the process of acquiring language and indeed for those who attempt to describe his knowledge of the language at any point in his development, it is the 'errors' which provide the important evidence. (p. 165)

Within the cognitive view, errors in first language acquisition were regarded as evidence of a developing system. Theorists indicated an interaction between the child's innate mental structure and the language environment; an interaction resulting

in the child modifying and testing rules of the language system which slowly develops to an adult proficiency level in later years. Brown (1973) termed the evolution of the language system, creative construction.

A similar principle for second language acquisition was proposed by Corder (1971). He termed the unstable error-ridden speech of a second language learner as an idiosyncratic dialect, which is characterized by regularity, systematicity and meaningfulness. Nemser (1971) supported this principle and suggested the term approximative systems. In his view the learner's system approximates the target language. Selinker (1972) coined the term interlanguage to define, "a separate linguistic system based on the observable output which results from a learner's attempted production of a target language" (p. 214). According to this theory, then, errors or systematic deviations from the target language were regarded as evidence of the development of a rule system for second language learners as well. The interlanguage of a second language learner was held to display deviations as a result of several processes. The five processes Selinker (1972) considered to be central to second language learning were: language transfer, transfer-of-training, strategies of second language learning, strategies of second language communication, and overgeneralization of target language linguistic material. Errors occurring as a result of language transfer

originated from the influence of the native language. The process transfer-of-training produced errors due to educational procedures used by teachers and/or textbooks in the language classroom. If the errors were a result of an identifiable approach by the learner to the material to be learned, the process strategies of learning was the cause. Strategies of second language communication produced errors from learner's attempts to communicate with native speakers. If a clear overgeneralization of target language rules and semantic features produced errors, the identifiable process was overgeneralization of target language linguistic material. A broader view of error sources became recognized by these linguists than that held by the descriptive linguists.

To study errors in this new light, linguists introduced a technique called error analysis, through which it was possible to identify, describe, and explain errors. Error analysis is based on the assumption that the pattern of errors reveals the systematic development of the learners' rule-systems in approximating the target language. It attempts to account for the process of second language learning by exploring the product.

Another major contributor to the shift in thinking about language has been the field of cognitive psychology. Developments in cognitive psychology paralleled those in linguistics in stressing the role of the mind in processing information; that is,

the belief that there exists underlying motivations and deep structures of human behavior that go beyond observable responses. According to cognitive learning theory, the learner actively perceives, acquires, organizes and stores knowledge. Cognitive learning theory proposed that an individual was operating internally, utilizing cognitive processes, to acquire knowledge. Knowledge did not result solely from interaction with external forces but also resulted from mental activity. Representative of this view was Ausubel's (1967) cognitive learning theory, which focused on meaningful learning, a process of relating and anchoring new material to relevant established entities in cognitive structures. Learning, according to Ausubel, could be of two types: rote and meaningful. Rote learning is a process in which the material is learned arbitrarily and verbatim, characteristic of drill pattern practice. Meaningful learning, though, is a process of relating and anchoring new material to relevant established entities. According to Ausubel (1968), meaningfully learned information has far greater potential for retention.

This mentalistic view of learning proposed by cognitive psychologists, combined with interlanguage theory and the theories of generative linguists, was consistent with the development of a rationalistic approach to language and language learning. More recently, Diller (1978) has summarized four propositions that characterize this approach. They are:

1. A living language is characterized by rule-governed creativity.
2. The rules of grammar are psychologically real.
3. Man is specially equipped to learn languages.
4. A living language is a language in which we can think.

The first proposition refers to a learner's ability to create an infinite number of grammatical utterances through the knowledge of rules for creating and understanding these utterances. The second characterizes the fact that speakers know the rules in a functional way; they know the rule, and are able to use it, but are not necessarily able to formulate it or explicitly state which rule is in use. The third proposition refers to the universal ability of human beings to learn languages, a natural process that is available to all humans. Based on cognitive learning theory, the fourth proposition posits that mimicry is not equivalent to speaking. It is meaningful use of the language that makes the language alive for the speaker. This rationalistic approach to language learning regards the language learner as a mentally active participant in the learning process. Through mental, cognitive processes, the learner internalizes language; he hypothesizes and modifies rules according to feedback which serves to validate or invalidate the hypotheses. He uses the rules to generate novel utterances which may contain deviations which yet display the systematicity of those rules. The deviations, or errors, are expected, and they are regarded as a natural step in the learner's

developing rule system.

By adopting this view of language, the communicative language teaching approach has replaced the notion of error-free speech with the notion of communicative competence as central to language learning. In this approach, teachers aim for learners who are communicatively competent, learners who are able to exchange information effectively in the target language in a variety of contexts. Communicative competence refers to the ability of a speaker to consider the context, the participants, register and style in conveying and understanding meaningful language. It extends the notion of competence previously proposed by Chomsky.

The competence of a speaker, for Chomsky, was what the speaker knew implicitly about the language but was not necessarily reflected in the speaker's actual use of the language or performance. Chomsky (1965) claimed that "We thus must make a fundamental distinction between competence (the speaker-hearer's knowledge of his language) and performance (the actual use of language in concrete situations)" (p. 4). In contrast, Hymes (1971) proposed that the notion of competence includes more than grammatical correctness, the limitations of Chomsky's competence. The notion of competence, according to Hymes, must include acceptability and appropriateness in the realm of social context, a notion more closely associated with the Chomskyan notion of

performance. Hymes believed that Chomsky's theory of competence, "posits ideal objects in abstraction from sociocultural features that might enter into their descriptions" (1971, p. 7). It is, then, the sociocultural features affecting language use that are integrated into Hymes' notion of communicative competence and he claimed that "There are rules of use without which the rules of grammar would be useless" (1971, p. 15). According to this later view, speakers decide on utterances because of grammatical correctness and sociocultural features such as the role of the speaker and hearer, and the setting. A child speaking to a parent at home, for example, may use different patterns of speech to express something than he would to his teacher at school. The child at home may say, "I wanna cookie!" but would change his style and register at school by saying, "May I please have a cookie?" For second language learners, this difference in appropriateness is part of a broad competence to be learned. Savignon (1972) defined communicative competence as, "the ability to function in a truly communicative setting--that is, in a dynamic exchange in which linguistic competence must adapt itself to the total informational input, both linguistic and paralinguistic, of one or more interlocutors" (p. 8). This ability, crucial for successful communication, is associated with communicative language teaching in which the learner is encouraged to interact, to communicate in a variety of contexts.

By dividing communicative competence into four components for use in curriculum design and evaluation of second language programs, Canale and Swain (1980) have provided a more explicit understanding of this term. Its four components, they propose, are grammatical competence, sociolinguistic competence, discourse competence and strategic competence. Each of the four contributes to the whole of communicative competence. Grammatical competence refers to mastery of the linguistic code, the ability to recognize the lexical, morphological, syntactic and phonological features of a language and to manipulate them. It is demonstrated by use, not by explicit knowledge of a rule. Sociolinguistic competence deals with the social rules of language use. It requires an understanding of the social context, the roles of the participants, the information they share, and the function of the interaction. Discourse competence is concerned with the connection of a series of utterances to form a meaningful whole. Inference plays a role in the interpretation of discourse, as a listener or reader gathers meaning from the connected utterances. Discourse competence requires the knowledge of a language-specific pattern of thought as it relates to language, and is dependent on knowledge shared by the writer/speaker and the reader/hearer. The last component, strategic competence, reflects knowledge of strategies that language-users use to compensate for imperfect knowledge of rules, or limiting factors in their application--such as fatigue,

distraction and inattention. Speakers who possess strategic competence can cope with factors that could otherwise result in communication failure; factors such as the appearance of errors or deviations in second language learners' speech that hinder successful communication. The acquisition of strategic competence aids a learner to cope with misunderstanding and confusion that can originate from either participant in the conversation. A combination of all of these types of competence together form the knowledge (or communicative competence) required by a speaker to function effectively and appropriately in a language, that is, to be communicatively competent.

In order to promote communicative exchanges and enhance the development of communicative competence, language teachers using communicative teaching approaches encourage learners to interact, to communicate in a variety of real or realistic contexts. As Hanzeli (1975) stressed, "the learning process must be based on genuine speech acts, on meaningful communication" (p. 429). The manipulative activities that characterized the audiolingualists' mechanistic approach to language teaching are coupled or replaced in the communicative teaching approach with communicative activities which require the learner to supply the meaning and structure of the utterances in verbal exchanges. Active participation by the learner is crucial for successful language learning according to this communicative view of language learning,

and is evidenced by studies of successful language learners. Both Rubin (1975) and Carroll (1977) list, among other strategies of successful language learners, the strategy of actively searching for opportunities to use the language. Learners assume responsibility for their own learning through practice in communicative activities.

The success of language learners has been also found by Seliger (1977) to depend partially on their encountering opportunities to practice, to interact in the target language. In this study, he found that the intensity of practice, characterized by verbal interaction in the target language, is a determining variable in the acquisition of that target language. His results show that the more an individual practices, the more successful that individual will be at developing competence. Two opposing types of language learners were identified through quantification of the verbal interaction produced by adult students during four hours of ESL lessons. High input generators (HIGs) were learners who initiated interactions and practiced intensively, whereas low input generators (LIGs) played passive roles in language interactions, responding to solicitations but not seeking opportunities for practice. Comparing HIGs and LIGs, Seliger found HIGs had higher scores on final examination results and more contact with the target language outside of class. The HIGs were exposed to more input as a result of their seeking practice

opportunities in both natural and formal language environments and developed competence more quickly than LIGs. This study emphasizes the learner's role in the language learning process. As Seliger (1977) concluded, "The learner must do something active that involves him cognitively in the process" (p. 275).

As a result of the shift in thinking about language and the role of errors, teaching approaches have changed considerably. Whereas the audiolingual approach featured mechanistic procedures and global error correction that produced teacher-directed, manipulated and non-spontaneous interaction, the communicative teaching approach emphasizes more learner-centered, natural, communicative interaction. As Savignon (1983) has suggested, "the most effective programs will be those that involved the whole learner in the experience of language as a network of relations between people, things and events" (p. 187).

The Role of Feedback in the Communicative Approach

As language learners interact, they are exposed to the possibility of feedback which allows them to reject or modify their hypotheses about the second language. Although Vigil and Oller (1976) found that predominantly negative feedback discourages student participation, the desire to interact possibly outweighs the detrimental effects of negative feedback. Feedback is crucial for the development of a learner's competence, so that even though successful language learners risk the possibility of receiving

negative feedback, their success at communication may outweigh the debilitating effects of such feedback. In fact, students' preference for error correction in second language classrooms was established in a study by Cathcart and Olsen (1976) who surveyed second language learners and teachers. Of the 188 students surveyed, 75% wanted correction all of the time. ESL students surveyed by Chenoweth, Day, Chun and Lupescu (1983) also reported positive attitudes toward correction of their mistakes. In their conclusion, Chenoweth, Day, Chun and Lupescu state that learners "saw correcting errors as facilitating--even being necessary--for the improvement of their oral English" (1983, p. 85).

Conversational Analyses and the Study of Feedback. Research on the nature of conversation provides insights for the field of language acquisition, particularly because natural conversational exchange can form a significant aspect of formal second language learning in communicative language classrooms. Conversational analyses have revealed the structure of discourse. Some also have revealed how error and correction are embedded in natural conversation between native speakers. For example, one part of an analysis conducted by Sacks, Schegloff and Jefferson (1974) studied practices of etiquette concerning interruption, the use of interruption markers, such as "excuse me," false starts and premature stopping, and they found repair devices directed to problems in the organization and distribution of turn-taking in

conversation. Repair refers to the righting of an error. They proposed that "the model of turn-taking with the fact of repair is thus of a dual character: the turn-taking system lends itself to, and incorporates devices for, repair of its troubles; and the turn-taking system is a basic organizational device for the repair of any other troubles in conversation" (Sacks, Schegloff and Jefferson, 1974, p. 724). Within conversation, speakers appear to follow a highly organized set of rules to address error and correction, rules that are part of an implicit system in natural conversation. In response to an utterance, a speaker will somehow display understanding, or lack of it. Through further analyses, Schegloff, Jefferson and Sacks (1977) argued that natural conversation is organized to provide self-correction; that is, the speakers identify and correct their own errors without help. Other-correction, when one speaker corrects an utterance of another speaker is less prevalent and often arises from problems of understanding. Self-correction predominates over other-correction in conversation between native speakers. There may, however, be an exception to this restricted appearance of other-correction, they noted: "The exception is most apparent in the domain of adult-child interaction, in particular parent-child interaction, but may well be more generally relevant to the not-yet-competent in some domain without respect to age" (1977, p. 33). Second language learners would fall into this "not-yet-competent in some

domain" so that other-corrections may rightfully occur more often in conversations involving them. Breakdowns in understanding sometimes occur in conversations between native speakers, but the imperfect command of the language by a non-native speaker increases the likelihood of a breakdown and the necessity of some form of repair.

In extending conversational analyses to second language learners, Gaskill (1980) studied conversations between native speakers and non-native speakers, yet found few other-corrections, even though many errors were committed. Those few other-corrections were found to be frequently preceded by a pause, to involve utterances that request clarification (like "Do you mean to say . . ."), to follow correction-invitation, and to be frequently associated with disagreement. Gaskill (1980) concluded that, "in conversation, other-correction is an infrequent and highly restricted phenomenon" (p. 136). Chun, Day, Chenoweth and Luppescu's (1982) study of native and non-native speakers' conversations revealed similar results with only 8.9% of non-native speakers' errors being corrected by native speakers. They found that effective communication was not sacrificed for corrections. Of the other-corrections that occurred, the most frequent was the strategy of modelling, involving supplying the correct form, making the corrections clear and unambiguous. From the results of these studies, it is clear that feedback in conversation is not

necessarily provided in the form of corrective treatment, and that other-correction--that is, correction by a participant other than the speaker--is infrequent.

Second language learners cope with errors or unsuccessful conveyance of meaning in different ways. The study of peer interaction between second language learners suggests that corrections do form a part of their conversational exchanges. Schwartz (1980) reported that negotiation, a process whereby learners confer with each other to achieve understanding, plays an important role during exchanges between second language learners. Negotiation was found to include both verbal and extralinguistic behavior, and Schwartz used descriptions of both types of behavior to explain repair work in her study. Repair was found to include other-correction, or negotiation that leads to self or other-correction showing that learners are not always capable of correcting themselves. Schwartz (1980) noted, "Even the most elementary students were able to deal with trouble sources and problems in understanding in their conversations by negotiating with each other to come to an agreement of meaning" (p. 152). The speaker of an error is given a chance to self-correct but often confers with the other speaker through gestural or linguistic behavior such as repetitions, pauses, definitions, eye gaze and hand movements signalling distress, facial and posture changes, and iconic gestures to act out words, all to achieve understanding.

Klinck's (1984) study of a conversation between second language learners provides further evidence that other-corrections are prevalent in these types of conversations. In the analysis of a conversation between four non-native speakers, Klinck found the participants willing to offer and accept other-correction.

It is apparent, then, that learners in conversation deal with error in a number of ways. Native speakers cope with breakdowns in understanding through organized systems that prefer self-correction but language learners are often unable to provide self-correction and so negotiate for corrective treatments, accept other-corrections and anticipate peer corrections. It appears, then, that although other-corrections are infrequent in natural conversations between native speakers, language learners depend more on feedback in the form of corrective treatments for effective communicative exchanges. Certainly, in formal language learning environments the nature of feedback and error treatment are important variables to consider as contributors to language learners' progress.

Research on Response to Error in the Classroom

In formal language learning environments, the nature of responses to error differs from naturalistic environments due to the classroom's contrived context as a specified place for learning a language. Feedback and error treatment are expected, necessary and desirable aspects in this context. Error treatment is expected as part of the widely-accepted role assigned to teachers in

classrooms, that which includes monitoring and correcting students' talk (Delamont, 1976). For adult second language learners, the possibility of error detection and correction is one of two universal and presumably crucial ingredients of formal instruction (Krashen and Seliger, 1975). Feedback allows adults to alter their interim grammars, their evolving interlanguages, and helps them to determine the exact environment of rule application and the semantic range of lexical items. In a study on fossilization, which is the process whereby certain linguistic items, rules, and subsystems become relatively permanent in the imperfect system governing a second language learner's speech, Vigil and Oller (1976) stress the role of feedback as a necessary factor controlling the development of learner grammars. They believe that, "As long as non-excessive corrective feedback is available to prod the learner to modify attempts to express himself in the target language, it is predictable that the learner's grammatical system will continue to develop" (1976, p. 284). Error correction is not only expected and necessary but is often desired by the participants in language classrooms, according to previously mentioned studies by Cathcart and Olsen (1976), and Chenoweth, Day, Chun and Luppescu (1983).

Forms of Responses to Error. Responses to error in a classroom are displayed as a variety of behaviors which have been observed and described by several researchers. Through videotaping,

Fanselow (1977) studied the responses to errors used by eleven experienced teachers in ESL classrooms and labeled the behaviors which followed errors in one of sixteen ways. They are:

1. No treatment
2. Acceptance of response containing error
3. Sets task again with no new information
4. Gives correct answer orally
5. Correct response given orally by another student
6. Gives part of the correct response or established cue in a different medium
7. Gives information
8. Presents alternatives
9. Repeats response with rising intonation
10. Gives indirect information.
11. Stops student from continuing response
12. Indicates no with a gesture
13. Says 'no' or 'uh uh'
14. Gestures and says 'no' or 'uh uh'
15. Repeats student incorrect response and says 'no'
16. Miscellaneous: self-correction, teacher waits etc.

(Fanselow, 1977, p. 585)

Fanselow does not classify these behaviors into further sub-types but does suggest some as more effective error treatments than others. Rephrasing the question and long wait times are suggested

as effective treatments but specification of error followed by tasks involving analysis, categorization, and manipulation is recommended as necessary to reduce students' uncertainty about how the language works.

Chaudron (1977a) offers a descriptive model of discourse for error treatments based on a synthesis of a descriptive system for classroom discourse developed by Sinclair and Coulthard (1975), and Allwright's (1975) suggestions for the study of error treatments. Chaudron studied audiotapes from three French immersion Grade 8 and 9 classrooms to devise the model, which classifies classroom discourse as a series of moves, according to their functions within the discourse. There are opening moves, which are used to initiate interactions, such as teacher elicitations, answering moves, utterances which function as responses to opening moves, and follow-up moves, utterances which continue on the same topic introduced by an opening move and may function to accept, evaluate or comment. This model extends the study of responses to error to a specialized form of discourse analysis that focuses on error response sequences as transactions, a connected series of moves, which function as corrections. Chaudron analyzes response to error as a portion of discourse that involves a total interaction between the teacher and students. He notes that the effectiveness of some responses is dependent on the type of error which prompts the treatment and that what worked for

content errors may not be suitable to grammar errors. Modelling by the teacher is noted as an ineffective treatment because it fails to isolate clearly the nature of the error for the student.

Walz (1982) lists error correction techniques under three categories--self, peer and teacher correction in his review of the relevant literature on error correction. The first category, self-correction, includes techniques that are actually administered by the teacher to encourage self-correction by the student. Self-correction techniques listed are pinpointing (when the teacher repeats the student's utterance up to the error), rephrasing questions, cueing, generating simple sentences, explaining key words, questioning, asking for repetition, gesturing a negative response, and providing grammatical terms. Peer correction techniques include any treatment which results in another student providing the correct response. Teacher correction techniques include providing correct answer, native language correction, discrimination exercises and paraphrasing. In listing these techniques, Walz also suggests when certain ones would be more effective than others. For example, rephrasing the question should be used when the student indicates a lack of understanding but does not make a grammatical error. Repetition is suggested only for better students who need a challenge because, as has been noted by Fanselow (1977), this technique is vague and does not clearly specify what error, if any, has been committed. Walz (1982)

suggests each technique be considered in light of contextual variables such as type of error, frequency of error, pedagogical focus of activity, or individual student differences (pp. 10-11).

Nystrom (1983) categorizes teachers' approaches to error feedback in elementary Spanish/English bilingual classrooms as overtly-, covertly-, and non-corrective (for details see pp. 41, 42 and Chapter 3 below). Following videotaping of four grade 1 classrooms, she listed the following teacher responses to error: "Models, drills, repeats, prompts, explains, (re)states instructions, tells student what to say, reduces and expands" (p. 175). Nystrom neglects, however, to place these in the three aforementioned categories. In studying these error treatments, Nystrom relates correction style of the four teachers to teaching styles in general. She relates an overt correction approach to a preoccupation for correct language form tending to stifle spontaneous communicative interaction from students whose oral language production is characteristically labored and stilted. In her study, a covert correction approach promoted a classroom climate where connected discourse was encouraged, spontaneous conversation occurred yet where correct language form is a concern. The teachers using this approach were characterized as "uncritical" and "accepting." One teacher utilized a non-corrective approach ignoring all errors and attended to meaning only. She promoted much conversational communication. Nystrom views these three approaches as forming a continuum with

non-correction on one end, covert correction in the middle, and overt correction at the other end. She advocates an avoidance of either extreme in concluding that:

The teacher who allows errors to go uncorrected may not be meeting the needs of her students if native-speaker peer interaction in the classroom is limited. But the teachers who sacrifice communication in the name of correct language use should consider the consequences of their methods on the language development of their students. (Nystrom, 1983, p. 186)

According to Seliger (1983), feedback can take any of the following forms: teacher correction, adjusted foreigner talk and normal conversational responses. Teacher correction can encompass a wide variety of behaviors, as noted by the researchers previously mentioned. Adjusted foreigner talk, which is a simplification of speech or a change in pace of speech, has been noted by several researchers (Holley & King, 1971; Fanselow, 1977; Chaudron, 1977a; Walz, 1982; and Nystrom, 1983) as a behavior following errors. They all refer to reactions which could be classified as adjusted foreigner talk, such as rephrasing questions, setting tasks again, and reducing or expanding the learner's utterance. Normal conversational responses following errors can also provide feedback, as conversational analyses have revealed strategies for dealing with error embedded in normal discourse. Such responses are

particularly evident in classrooms when teachers react to the content rather than the form of a learner utterance during communicative exchanges.

The aforementioned classifications of feedback reveal the range of possible behaviors which may be viewed as responses to error in the classroom.

Recommended Responses to Error. Although Nystrom's categories seem to cover all possible responses to error, opinions differ regarding the superiority of any one type of response over another. One type of response, overt correction is accomplished through techniques that supply the correct form and/or indicate the error. Modelling--that is, provision of the correct form--is the most common of these techniques and is supported by Holley and King (1971) as a satisfactory treatment. However, Corder (1967) suggested that, "simple provision of the correct form may not always be the only, or indeed the most effective form of correction since it bars the way to the learner testing alternative hypotheses" (p. 11). In support of this observation, Ramirez and Stromquist (1979) found, in studying 18 elementary ESL classrooms, that frequent occurrence of modelling correlated negatively with student growth. Teachers' overt correction of grammatical errors, (though not phonological errors), was significantly correlated with student improvement on both content comprehension and ESL production tests.

Covert correction, (that is, responses which encourage the student to self-correct), is recommended by several researchers. Some variations of covert correction techniques include restating instructions, prompting, repeating part of a response, gestures, or waiting. Holley and King (1971) suggest as effective techniques the rephrasing of utterances or the cueing of students to encourage self-correction. Stevick (1976) and Fanselow (1977) recommend waiting, providing the student with extra time and a chance to self-correct. This wait time can be coupled with gestures as a form of error treatment. Facial expressions, hand signals or other body movements are often utilized in conjunction with other techniques. Moskowitz (1976) found outstanding foreign language teachers to be very active non-verbally. Schacter (1981) even proposed a total nonverbal feedback technique comprising of a set of hand signals, each of which is used to indicate certain error types. Because repair in natural conversation is often treated by self-correction, Kramsch (1985) proposes treating errors without interrupting natural interactions, either by allowing the student time to self-correct, or by paying attention to the meaning instead of the form. The latter of the two suggestions can be considered a non-corrective response which involves accepting the students' flawed utterance as correct or ignoring the error and responding to the content of the utterance. While non-corrective responses are often utilized by teachers in informal conversation with

students, they limit the function of a language teacher, a function which includes correcting and monitoring student talk. The teacher in Nystrom's study who ignored students' error "conveyed to her students her concern for communication of messages instead of concern for correct, or standard, grammatical form" (1983, p. 182). She was apparently following a communicative language teaching approach in which she encouraged the exchange of information rather than error-free speech. Neither overt corrections, covert corrections nor non-corrective responses are consistently advocated as superior types of responses because of so many other considerations that must be made when an error occurs. Overt corrections, for example, may be acceptable during pronunciation practice, yet not acceptable when a student is attempting to convey information. Several dependent variables, such as error type, pedagogical focus, or individual student characteristics, may be considered before the administration of an error treatment, which may result in apparent inconsistencies.

Problems in Studying Error Treatment. Allwright (1975) discussed problems in studying error responses and noted this inconsistency on the part of the teacher as one problem that confounds the observation and description of error responses. By considering individual student concerns, teachers may appear inconsistent in administering error treatments, or they may be consistent in giving appropriate responses to all learners while

appearing inconsistent in their application of criteria of acceptability. This confuses both the observer and the learner. A second problem noted by Allwright and confirmed by Fanselow's (1977) observations is the lack of clarity in treatments. Some treatments occur in combination, and some are ambiguous:

There were times when teachers said "fine" and at the same time shook their heads sideways. The "fine" no doubt was intended as a signal that the response was the one expected; the negative gesture was probably intended as a signal that some part of the response was incorrect. (Fanselow, 1977, p. 586)

Such combinations are difficult to interpret. Depending on the treatment, there may be ambiguity as to what error was committed and what the correct model should be. Learners' perceptions of a response following an error can possibly result in conflicting hypotheses when erroneous forms are accepted from some students and not others. Long points out that, "the lack of clarity of individual feedback moves is often compounded by the inconsistency in a series of such moves" (1977, p. 284). This complex situation can arise from the teacher's shift of pedagogical focus in a lesson and, consequently, a change in choice of errors treated. The observed inconsistency or lack of clarity may be sound pedagogical practice following teachers' consideration of the variables affecting the learners in their particular classrooms. But these

observed behaviors can contribute to a lack of understanding by researchers if not viewed in context, and without knowledge of contributing variables such as error type chosen for correction or individual student concerns. The teacher is expected to choose appropriate responses to error, on the spot, carefully weighing many factors that are not directly observable to researchers.

Considerations in Choosing a Form of Feedback. One fundamental consideration in choosing a response to an error is deciding which errors to treat. Burt's (1975) global-local error dichotomy captures the essence of the communicative approach to error correction. She classified errors as either "global" or "local"--global errors, such as syntactic misordering, seriously interfere with communication, and local errors, such as phonemic, inaccuracy affect only individual linguistic segments. She suggested selective error correction based on these distinctions, claiming that responding to communicative errors yields more communicatively competent learners because, in this manner, students are allowed to build confidence as their ability to communicate increases.

Other error types have also been proposed for treatment in second language classrooms. In a review of error correction, Cohen (1975) listed six types that are important to correct:

- 1) errors affecting intelligibility, 2) high-frequency errors,
- 3) errors at a high level of generality, 4) errors with stigmatizing

or irritating effects, 5) errors affecting a large percent of the students, and 6) errors that are relevant to the pedagogical focus (p. 415). Hendrickson (1978) suggested that only types 1, 3, and 4 be considered for correction. Although no clear consensus has been reached, comprehensibility emerges as a common criterion in choosing errors to treat. In Ludwig's (1982) review of studies on native speaker judgments of second language learners' speech, she agrees that native speaker reaction to errors can clarify which language errors interfere with linguistic comprehension and social-cultural compatibility, and thus direct the effective use of error treatments. One such study by Chastain (1980) confirms comprehensibility as a most relevant criterion for the acceptability of an error in real life conversations. Communicative errors, those which hinder a successful exchange of information, are likely responded to in communicative classrooms where the replication of an atmosphere of real life communicative interaction is attempted. However, depending on the context of errors, other types of errors are also treated. In addition to comprehensibility, Walz (1982) proposes frequency, pedagogical focus and individual student concerns as other criteria for deciding which errors to treat. The dilemma remains for teachers who must decide which errors require corrective treatments or non-corrective responses, as no clear cut answer is possible without their consideration of other variables.

In addition to type of error, other factors have been recognized as affecting the choice of response following an error. The type of activity and pedagogical focus may also influence the choice made by a teacher of how to respond to an error. Manipulative activities, during which the teacher manipulates the content and form of students' speech tend to produce more instances for error treatment than communicative activities, when an exchange of information is encouraged. For example, a manipulative activity such as a substitution drill which requires the student to replace each singular pronoun with a plural one and to make all other necessary changes demands accuracy, and thus generates answers which are either right or wrong. In this case, students would expect corrective error treatments. However, during a more communicative activity such as a discussion following a short text when students are asked to express opinions corrective error treatments would likely not be expected or be considered appropriate. This type of activity promotes communication of ideas and is by and large not interrupted for correctness of form. Depending on the pedagogical focus of an activity, feedback may be of a corrective nature. The provision of a correct model, an overtly corrective error treatment, may occur following a student's response if the student has committed a content error, that is an error of fact. In Chaudron's (1977b) study of French immersion classes, where "language instruction was subordinated to

the subject matter" (p. 39) and the communicative use of the target language took precedence over linguistic accuracy, corrective error treatments were abundant. Kasper's (1985) study of an English as a foreign language classroom emphasized the differences in repair patterns during language-centered and content-centered activities. She found that:

The focus on formal correctness in the language-centered phase, together with the total lack of any purposeful communicative use of the foreign language by the learners, is matched by a repair pattern which functions as a pedagogical exchange, viz., the teacher-initiated delegated repair of a learner's utterance In the content-centered phase with its emphasis on the meaningful use of the foreign language . . . this repair type is distinctly dispreferred. (1985, p. 214)

The pedagogical focus of an activity can influence the choice of feedback and reveal variable responses to error.

The affective domain is also considered by language teachers when choosing a response following errors. Affective variables, such as empathy, introversion/extroversion, and aggression, that contribute to attitude, self-concept, and motivation may intervene with the effectiveness of responses to error. Teachers, therefore, sometimes vary their responses and appear inconsistent. An observed case of inconsistent corrective treatments by a teacher

in Chaudron's (1977b) study of teachers' priorities in correcting learners errors was justified as occurring "for the sake of supporting the student's effort to attempt a complex response" (p. 34). The teacher who did not want to interfere with the learner's motivation or self-confidence adjusted his response accordingly. The use of positive techniques and the avoidance of student embarrassment by teachers may result in the provision of more effective forms of feedback.

Negative instances of feedback can contribute to the presence of what Krashen (1982) calls a strong "affective filter" in a learner, a screen that blocks input, inhibits learning and discourages the learner. He hypothesizes that, "our pedagogical goals should not only include supplying comprehensible input, but also creating a situation that encourages a low filter" (1982, p. 32). Krashen's Affective Filter hypothesis claims that affective variables can impede or facilitate the delivery of input for language acquisition. Learners with high motivation, self-confidence and low anxiety tend to have a low affective filter. Some overtly corrective techniques, such as negative verbal responses, could negatively influence a learner and promote a high affective filter unless they are interspersed with some more positive feedback situations, although Vigil and Oller (1976) believe that:

As long as the affective messages conveyed to the student are predominantly positive, frequent instances of negative cognitive feedback are not likely to do any harm, and in fact are probably essential to a high level of attainment on the part of learners in foreign language classrooms. (p. 294)

Individual student differences in age, aptitude, level of proficiency, educational history, ethnicity, and personality also influence choice of response. Differential responses to error occur because a teacher considers different individual characteristics. A shy, elderly beginner may receive no error treatment or only covert correction from a teacher who wishes to encourage further interaction, whereas a young, confident, intermediate may seek overt correction to perfect some phonological error. An inconsistency by the teacher of responses to error may be the result of an adaptation to such individual differences. Different types of language learners, which may promote differential error feedback, were identified by Seliger (1977). As indicated above, Seliger labelled opposite types of learners as high input generators and low input generators according to their interaction patterns in the classroom. A high input generator is provided with more opportunities for feedback from the higher instances of initiated speech than the low input generator who is a passive interactor. Hence, the frequency of error treatment may differ for

these two interactor types. It is also possible that this characteristic is related to the form of response following an error, as consideration of individual differences is essential for error treatment to be effective. Henrickson (1978) concluded that "although teacher correction of learner errors is helpful to many students, it may not be an effective instructional strategy for every student or in all language classrooms" (p. 396).

The nature of responses to error in the classroom is a complex phenomenon, the study of which is complicated by inconsistency and ambiguity. Such study is necessary, however, in order to attempt to clarify and understand second language learning in a formal environment.

Summary

It is evident that the audiolingualists produced very specific patterns of interaction and error treatment sequences in second language classrooms due to their beliefs about language and language learning. Their habit-formation view of language learning prompted manipulative teacher-directed interaction such as imitation drills and pattern practice which left little or no time for spontaneous speech. Feedback served either to reinforce positively correct habits or to eradicate incorrect habits. All errors were regarded as bad habits and were treated globally with overtly corrective measures; no consideration was made of different types of error, types of activity, affective variables or individual

student differences when administering error treatments. Habits were formed as learners received stimuli to which they responded, correctly or not, and were reinforced accordingly.

In contrast to the audiolingual approach, communicative language teachers acknowledge active learners who test hypotheses and validate or modify their developing rule systems according to various forms of feedback encountered during their attempts to communicate in the target language. Errors occurring in learners' interlanguages appear to be systematic and are considered to be a necessary part of language learning. Classrooms in which language and language learning are considered in this light tend to provide opportunities for exchanges of information in a variety of contexts in order to contribute to the development of communicatively competent learners. Interaction in these classrooms is more learner-centered, sometimes initiated by students and often accomplished through pair or group work. Natural, spontaneous speech for real communicative intent is encouraged. Conversational analyses have indicated that error correction by others or self naturally occurs within conversation, often only after errors that cause misunderstanding. Hence, no notice of errors is frequently taken in communicative language classrooms during conversational exchanges unless they interfere with successful communication. Selective error correction does occur in various forms, prompted by different stimuli, especially in adult classrooms where error

detection and correction form a crucial part of instruction. Teachers utilize overt correction, covert correction or non-corrective responses while considering affective variables, pedagogical focus, type of error and individual student differences. Because of the complex interdependence between such factors and the forms of error treatment, responses to error are ambiguous, inconsistent and difficult to study.

A change in beliefs about language, language learning, and the role of errors has resulted in drastic modifications to the nature of responses to error. The audiolinguualists' pervasive overt correction techniques have been rejected, while selective responses to error have been adopted in communicative language classrooms. Responses to error constitute an important aspect of feedback, providing learners with information essential to the hypothesis-formation and rule-modification process of language learning. Because responses to error vary, it is necessary to understand their relationship to other variables in the second language classroom. One such variable, interactor type, has already been established as a determining variable in the acquisition of a second language by Seliger (1977). It is possible that responses to error are somehow related to this variable. The exploration of a relationship between the variables of interactor type and responses to error should further clarify

the nature of feedback to error and its significance in formal language learning environments.

Chapter Three

Design, Procedure and Hypotheses

This study was designed to investigate how the learner characteristic of interactor type is related to responses to error in formal language learning environments. The following questions were asked: Are high interactors' errors treated differently than those committed by low interactors? Do high interactors receive more or less corrective error treatments than low interactors? Do low interactors receive different types of corrective error treatments than high interactors? Answers to these questions enabled a description of the relationship between the two non-manipulated variables--responses to error and interactor type. Previous research by Holley and King (1971) and Seliger (1977) demonstrated the advantages of observing at least two classes as the basis for conclusions about such relationships. Accordingly, observation of two adult ESL classes was undertaken in this study. The observation of two different classes also made it possible to note differences in activities between the classes which might have had significant influences.

Subjects

The subjects for this study were students and teachers in two adult ESL classes offered through the Division of Continuing Education by the Calgary Board of Education. In the first class, termed class A, 12 students all of Oriental heritage studied

English daily as part of a specially designed high school program for ESL students 18 to 21 years of age. The second class, class B, included 14 ethnically heterogeneous students who studied ESL twice weekly. Class A was at a high intermediate level; class B at a low intermediate level. Both teachers had considerable experience teaching ESL.

From these two classes, 12 subjects--6 from each class were selected for further study on the basis of classification of interactor type in accordance with Seliger's (1977) terminology. Seliger termed learners who interact intensively and seek out opportunities to use the second language high input generators (HIGs) in contrast to low input generators (LIGs) who avoid interacting or play passive roles in language interaction (see details below). The six subjects from class A were all Vietnamese between the ages of 18 and 21. The six subjects from class B ranged in age from 26 to 46 years and were ethnically mixed, with 1 Pole, 2 Czechs, 1 Chinese, 1 Vietnamese and 1 Paraguayan.

Procedure

Each class was videotaped during four hours of regular classroom activity. No direction was given to participants to behave in a particular way. The researcher collected the data through three visits to class A and two visits to class B, during which time she operated the videotaping equipment taking care to capture both teacher and student behaviors, verbal as well as

non-verbal. The equipment and researcher remained unobtrusive to normal classroom activity, as the video camera was set on a tripod during each visit approximately five feet from a rear corner of the classroom. The attached microphone was placed on a desk near the center of the room. At the beginning of each visit, a seating plan was completed to ensure proper identification of speakers during the lesson. In an effort to reduce as much as possible any observer effect, the first 10 minutes of videotape from each class were not analyzed.

All the videotapes were viewed twice, the first time by two observers independently of each other in order to code information required for the classification of interactor type, HIG or LIG, and the second time to categorize types of error responses for these interactors. Even though the exact number of utterances tabulated for each student differed for each observer in the first viewing, differences were minimal (<5% of cases), and the overall ranking of students showed 100% agreement. During the gathering of descriptive data about the participants and lessons, particular attention was paid to two global measures of classroom activity; first, the types of activities undertaken, in particular to draw distinction between teacher-centered and learner-centered activities, and, second, the ratio of teacher to student talk, which was determined by measuring the total amount of time the teacher spoke in relation to the total amount of time the students spoke.

Classification of Data

Subjects were classified as HIGs and LIGs in each class following the procedures established by Seliger (1977). First, the total number of utterances made by each student was recorded. Second, the number of those utterances which were self-initiated during the observation was noted and then calculated as a percentage of the total utterances. Although Seliger's work involved coding utterances in any language used by the participants, only the target language, English, was coded in this study for two reasons. First, very little native language interaction was observed, and second, multi-ethnic classes would have required multilingual observers. An utterance was defined as any speech act, whether a single word, a phrase, or a series of connected sentences, and was recorded each time a student took a turn in the classroom discourse. A self-initiated utterance was recorded as any turn, including questions, voluntary comments, and peer corrections that were not in direct response to or elicited by the teacher. Private student-student interactions were not coded as it was impossible to capture all of these exchanges using only one microphone. Public exchanges between students, that is, those audible to all participants, were recorded according to the established categories. Multiple responses to one teacher question were not coded because of the inability of the equipment and the observers to discriminate all the speakers' identities. In

order to arrive at the HIG/LIG classification, only students who had made 20 utterances or more were considered. Then, after tabulating the percentage of total utterances which were self-initiated for the remaining students, those with the three highest percentages were classified as HIGs and those with the three lowest percentages were classified as LIGs in each class yielding the sample of 12 students to be analyzed (see Table 1).

The quantification and qualification of responses to error for the identified HIGs and LIGs were then recorded according to the type of utterance and the type of response. Each time a subject committed an error, the data were classified as follows: (a) errors committed during self-initiated utterances, (b) errors committed during any other utterance, and (c) responses to error by either teacher or peer. These could be non-corrective responses, overt corrections or covert corrections. These above categories were more fully defined as follows: an error was defined as any mistake--phonological, lexical, grammatical, discorsal or content as judged to be deviant from standard Western Canadian English by two native speaker raters. A response to error was defined and noted as any reaction, verbal or non-verbal, by a participant other than the utterer, following a perceived learner error.

Responses to error were classified as overtly corrective, covertly corrective or non-corrective (Nystrom, 1983). Overtly corrective responses are those which are openly corrective. They

Table 1

Classification of Utterances of HIGs and LIGs in two ESL Classes

Student number	Total utterances	Self-initiated utterances	Percentage of total which were self-initiated
<u>Class A</u>			
* 1	49	20	41
* 2	127	41	32
* 4	105	34	32
✓ 5	202	29	14
✓ 7	29	2	7
✓ 10	44	1	2
<u>Class B</u>			
* 5	75	14	19
* 6	53	15	28
* 13	76	30	39
✓ 1	54	3	6
✓ 4	44	2	5
✓ 7	29	0	0

* High Input Generators

✓ Low Input Generators

clearly indicate publicly that an error has been committed and may in addition specify the error. Overt corrections can be:

1. Modelling--a correct model is provided by teacher or peer.

Example: Student: "Finally, I came to a mashy place."

Teacher: "Finally, I came to a marshy place."

2. The teacher asking a fellow student to provide a correct answer.
3. The teacher or peer stopping or interrupting the student during an incorrect response.
4. A negative verbal response with or without a gesture.

Example: Teacher: "What does she take out to cook in?"

Student: "A pot."

Teacher: "No, not a pot."

5. A clear indication of the nature of the error.

Examples: a) Teacher: "What language is spoken in Mexico?"

Student: "Espanish?"

Teacher: "Not Espanish, that's Spanish-English; just Spanish."

b) Student: "[drayvn]."

Teacher: "The pronunciation is wrong there. It should be driven."

Covertly corrective responses are more indirect corrections than those above. They prompt or cue the learner to self-correct.

Covert correction can be:

1. The setting of the task again by direct request or by

repetition or rephrasing of the question.

2. The repetition of some part of the response.

Example: Student: "He had [drayvn] the car."

Teacher: "He had"

3. Gesturing--grimace, hand or head movement, or an established cue--such as flipping one hand over the other to signal wrong ordering.

4. The provision of information.

Examples: a) Student: "Donald drive car faster than Fred."

Teacher: "There are two small mistakes."

b) Student: "Shoe" (pointing to two shoes).

Teacher: "How many?"

5. The presentation of an alternative.

Example: Student: "Last night, I become frightened by the
strange sound."

Teacher: "Become or became?"

6. Repetition of incorrect response with rising intonation.
7. Expansion or reduction of response.

Examples: a) Student: "Wail."

Teacher: "Mmm, a quiet wail?"

Student: "A quiet whimper."

b) Teacher: "When do you shiver?"

Student: "When you're cold."

Teacher: "When you're cold, when you're
frightened"

Student: "When you're scared."

8. The teacher waiting for self-correction.

Non-corrective responses have no corrective function. They are accomplished by the teacher actually accepting the response with positive verbal feedback, "Yes" or "O.K.," or simply ignoring the error and responding to the content of the utterance.

Tabulation of amounts and types of responses to errors according to the above schedule for HIGs and LIGs was then completed. (see Table 2, Chapter 4)

Hypotheses

This study focuses on the relationship between responses to errors and interactor type. Responses to errors have been found to be a highly variable aspect of student-teacher interaction (Nystrom, 1983), yet no relationships have been described between the amount and types of such responses and a particular learner characteristic. On the one hand, being a HIG or a LIG may affect the amount and type of feedback received by a student, or, on the other hand, the type of corrections administered to a particular type of learner may affect the amount and type of utterances made in a classroom. There was no a priori reason to make directional predictions. Accordingly, to describe the relationship between the two variables, responses to error and interactor type, the

following null hypotheses were tested:

1. There is no relationship between the frequency of all observed corrective responses to errors and interactor types.
2. There is no relationship between the observed frequency of overt corrections and interactor types.
3. There is no relationship between the observed frequency of covert corrections and interactor types.

Chapter Four

Analysis and Results

In this descriptive research study, two classes were observed and two types of data were gathered. The first type, quantitative data, displays the frequencies and types of responses to errors received by the two interactor types, HIGs and LIGs, in two ESL classes. The second type, qualitative data, describes the classroom participants, their context and activities, in order to provide supplemental information for the interpretation of the quantitative data.

Quantitative Data

As a result of the classification of students into one of two categories, it was possible to characterize the differences in frequency and type of error treatments received by the two interactor types--high input generators and low input generators. The frequencies and types of responses to error were coded for each set of interactor types, comprised of three students per class (see Table 2).

Analysis. Following the rationale put forward by Best (1981, p. 288), the appropriate statistical test, the chi-square test (χ^2), was utilized for these nominal data, that is, data which are classified in categories and represented by frequency counts. The chi-square test evaluates the probability of a relationship between interactor type and the other measures--first, the

Table 2

Responses Following Utterances Containing an Error

Inter-actor Type	Responses following Self-initiated Utterances containing Errors				Responses following all Utterances other than Self-initiated containing Errors			
	O.C.		C.C.	N-C	O.C.		C.C.	N-C
	by Peer	by Teacher	by Teacher	by Teacher	by Peer	by Teacher	by Teacher	by Teacher
<u>CLASS A</u>								
HIGs	0	1	1	13	5	29	42	4
LIGs	0	4	2	6	10	55	57	6
<u>CLASS B</u>								
HIGs	0	2	2	14	2	10	11	11
LIGs	0	0	1	0	7	22	8	8

O.C. = Overtly Corrective

C.C. = Covertly Corrective

N-C = Non-Corrective

frequency of corrective error treatments and second, the frequency of each type of corrective treatment, overt and covert.

The first analysis was conducted to establish a relationship between interactor type and frequency of corrective error treatments. To determine whether there was a significant difference between the frequency of corrective error treatments for HIGs and LIGs, totals were calculated of corrective error treatments and non-corrective responses for the HIGs and LIGs in class A, class B, and class A + class B. Following a formula provided by Ferguson (1976, p. 198), a chi-square test for two variables was performed on each of these three sets of data (see Table 3).

A second analysis was conducted to examine the relationship between interactor type and types of corrective error treatments. Totals were tabulated of overtly corrective error treatments and covertly corrective error treatments for HIGs and LIGs in each class, and for class A + class B combined. Chi-square tests were performed on these three sets of data (see Table 4).

Results. In relation to hypothesis 1, Table 3 indicates a significant relationship between interactor type and frequency of corrective error treatments for each set of data. The results for class A ($\chi^2 = 4.5$; $p < .05$), class B ($\chi^2 = 10.3$; $p < .01$) and the combined class A + B ($\chi^2 = 18.5$; $p < .001$) support a rejection of the null hypothesis and display a strong relationship between

Table 3

Frequency of Responses Following Errors for Interactor Types in
Two ESL Classes

Interactor Type	Corrective Error Treatments	Non-Corrective Responses	χ^2
<u>CLASS A</u>			
HIGs	78	17	4.5*
LIGs	128	12	
<u>CLASS B</u>			
HIGs	27	25	10.3**
LIGs	38	8	
<u>CLASS A + B</u>			
HIGs	105	42	18.5***
LIGs	166	20	

*p<.05

**p<.01

***p<.001

Table 4

Frequency of Types of Corrective Error Treatments for Interactor
Types in Two ESL Classes

Interactor	Overtly Corrective Error Treatments	Covertly Corrective Error Treatments	χ^2
<u>CLASS A</u>			
HIGs	35	43	1.58
LIGs	69	59	
<u>CLASS B</u>			
HIGs	14	13	4.2*
LIGs	29	9	
<u>CLASS A + B</u>			
HIGs	49	56	3.96*
LIGs	98	68	

* $p < .05$

interactor type and frequency of corrective error treatments. In both classes, the high interactors received fewer corrective error treatments relative to errors committed than did low interactors. In class A, of the 95 utterances containing errors recorded for the HIGs, 78 (or 82%) were treated correctively while 128 of 140 (or 91%) of the LIGs' errors were treated correctively. In class B, 27 of 52 (or 52%) of the HIGs' errors were treated correctively versus 38 of 46 (or 83%) for the LIGs. Overall, HIGs received significantly less corrective treatments than LIGs.

In relation to hypotheses 2 and 3, Table 4 displays a significant relationship between the two types of corrective treatments, overt and covert, and interactor type. The chi-square test demonstrated a significant relationship between the two variables for class B ($\chi^2 = 4.2$; $p < .05$) and for the combined class A + B ($\chi^2 = 3.96$; $p < .05$). In these cases, the HIGs received significantly different frequencies of the two types of corrective error treatments than did the LIGs. No significant difference between the two variables was found for class A. The two significant results support rejection of the null hypotheses 2 and 3. From the data displayed in Table 4, it is evident that LIGs received more overtly corrective treatments than HIGs; and HIGs received more covertly corrective treatments than LIGs. The results seem to demonstrate, then, that correction was administered differentially according to interactor type.

During the tabulation of responses to error, it was noted that all peer corrections occurred as overtly corrective error treatments, usually through provision of a correct model. No peer corrections were administered to self-initiated utterances; they all occurred after utterances elicited by the teacher or a peer. In both classes, peer corrections accounted for a minor portion of corrective error treatments--7% in class A, and 14% in class B.

Responses to errors committed during self-initiated utterances were for the most part non-corrective--70% in class A, and 73% in class B. It was noted, however, that the frequency of corrective error treatments following errors committed during self-initiated utterances was higher for the LIGs than for the HIGs in both classes (Class A: HIGs--13%, LIGs--50%; Class B: HIGs--26%, LIGs--100%). These results support once again the rejection of hypothesis 1, since HIGs receive fewer corrective error treatments than LIGs.

Qualitative Observational Data

Class A. The 12 students were seated at long tables set in the shape of a rectangle with one side left open for the teacher to move freely within the open space. Students remained seated throughout the lessons with no movement occurring except when a student got up to write on the board. Although the students are adult learners, they attend school full-time, studying Language Arts, Math, Social Studies and Science in programs which have been

specially designed for ESL students between 18 and 21 years of age. All observations were made during the Language Arts periods during which students concentrated on ESL. All of the students were of Oriental descent, mostly from Vietnam or Hong Kong. This cultural homogeneity resulted in some student-student interaction occurring in their native languages which did not, however, interfere with the observations. The classroom climate was relaxed and students were encouraged to offer answers. Often, the teacher spoke to the class without soliciting the answer from any specific student, leading to several students answering together. There was a cooperative effort from students to supply the correct response.

No formal pair or group work was attempted during the observation periods. Much of the activity observed was manipulative in the sense that the teacher provided both the form and content of the activities. The activities included discussions of short texts, oral and written vocabulary and grammar exercises, explanations and practice in using idioms, and descriptions of visuals. All of these activities were teacher-centered; that is, the students were guided and directed step-by-step by the teacher who conducted the class in the oral manipulation of all work. Sometimes, during the discussion of a vocabulary item or text, a new direction for the conversation was followed as a result of interest or questions by the students or teacher. These conversations were communicative activities, in which the content and form were dictated by the

subject at hand, and an exchange of previously unknown information occurred. Most of the lessons observed were of an oral nature, with some written work assigned as follow-up activities. The ratio of teacher-student talk in this class was approximately 70:30; that is, out of 100% of time when someone was speaking, 70% of that time was taken by the teacher and 30% was utilized by the students.

A pattern of responses to error was noticed during different activities. When the focus of the activity was grammar or vocabulary, feedback included corrective responses to those types of errors. However, when students were attempting to convey information, as during the discussion of a reading passage, responses to error included non-corrective measures and treatment of communicative errors.

Class B. The 14 students were seated in student desks arranged in rows facing the front of the classroom. A lot of student movement occurred as pair work was prevalent during the lessons observed. The students, who attend this evening class twice weekly, were ethnically mixed, with the result that most of the verbal interaction occurred in English. Even though some of the students shared a common native language, the teacher discouraged use of this language, and there was minimal use of languages other than English. The classroom climate was relaxed yet controlled by the teacher who called on individual students for

responses. Students did not answer concurrently except when the teacher requested choral repetition from a group of students or the whole class.

Activities observed were a blend of teacher-centered and learner-centered work. The teacher-centered activities included a spelling quiz, oral and written grammar exercises, listening exercises, repetition and transformation drills. Learner-centered activities occurred following many of the teacher-centered activities as the students were assigned in pairs to practice new structures, compare answers or solve problems. Discussions and problem-solving activities were also observed during which the teacher lessened control of the form while aiming for more communicative exchanges between students, and did not control the content of the student talk. The variety of activities observed displayed a conscious effort by the teacher to move from manipulative activity to communicative activity, during which the students control the form and content of the exchanges. Student talk was encouraged and spontaneous interaction was often noted as the teacher utilized some time during each lesson for discussion on student-generated topics. The ratio of teacher-student talk in this class was approximately 40:60; the teacher spoke 40% of the time someone was speaking compared to the students, who spoke 60% of the time.

During manipulative activities, when the focus of the activity

was a particular grammatical structure, responses to error were often either overt or covert corrections. But during communicative exchanges, responses to error were often non-corrective. The teacher responded to the content of the utterance while ignoring many grammatical errors.

Chapter Five

Discussion

Two adult ESL classes were observed as settings for the study of two variables, responses to error and interactor type, that have independently of each other been determined as significant to formal adult second language learning. Research on the first variable, responses to error, has previously established its significance in formal adult second language acquisition (Krashen & Seliger, 1975). The variable of responses to error is recognized by both educators and learners as a necessary component in the language classrooms to facilitate the hypothesis-testing and rule-modification process that is believed to result in developing competence in language. Responses to error refers first to the frequency of error correction and, second, to the type of corrective error treatments. The second variable, interactor type, was established by Seliger (1977) as a determining variable in the acquisition of a second language. According to Seliger, two types of interactors, high input generators and low input generators, represent opposing characterizations of learners--those who seek opportunities for interaction and practice intensively versus those who are passive interactors. The high interactors, HIGs, utilize the strategy of practice, a strategy that has been identified with successful language learners. These two variables, responses to error and interactor type, were investigated in order to describe their

possible relationship to each other. Supplemental contextual information about each classroom that may have contributed to the nature of the relationship was also reported from observational study. The combination of quantitative and qualitative data describes the nature and provides support for the existence of a positive relationship between the two variables, one, a pedagogical behavior and the other, a learner characteristic.

Frequency of Corrective Error Treatments

The nature of the relationship was revealed by the quantitative data reported through identification of the frequencies and types of corrective treatments administered to the HIGs and LIGs classified for each class. The first null hypothesis stating no differences occur in frequencies of corrective error treatments for interactor types was rejected. In each class, the HIGs received significantly less corrective error treatments than the LIGs relative to the number of errors committed. It appears, then, that although HIGs interact more and generate more input, they receive less corrective error treatments than LIGs. Overall, this type of learner, the high interactor, who is willing to risk error often and to test hypotheses by seeking opportunities to interact in the second language, does receive feedback that promotes rule modification, as evidenced by the success of these interactors in language learning. Yet, the feedback to these learners is not as often in the form of a corrective error treatment as for low interactors. Some overtly or

covertly corrective reaction by a teacher or peer is administered more often after errors committed by low interactors, even though they do not initiate interaction as often as HIGs. The feedback to HIGs is provided through other means, partially through non-corrective responses characterized by acceptance of errors and reactions to the content of an utterance. Such responses replicate more normal conversational responses between native speakers than do corrective treatments. In both classes, the percentage of errors receiving non-corrective responses was higher for HIGs than LIGs.

Conversational analyses have indicated that natural discourse provides opportunity for correction. Schegloff, Jefferson and Sacks' (1977) study of conversation found organizational mechanisms that address error and correction within natural conversation, mechanisms that promote opportunities for self-correction more often than for the correction of one speaker by another. Through self-initiated utterances, HIGs tend to participate in natural conversation more often than LIGs, who seldom initiate conversation. For these HIGs, feedback during interaction can be provided through normal conversational responses which can include: a) non-corrective responses to errors, such as 'uh huh' or nodding of the listener's head to convey understanding; or b) covertly corrective treatments that cause the speaker to revise the utterance. For low interactors who participate when called on

in the classroom and are less likely to be involved in communicative exchanges than manipulative activities, feedback is often in the form of corrective treatments. Because the focus is on form rather than meaning during manipulative work, corrective error treatments are administered often to generate the required answer. Hence LIGs, through their patterns of interaction, are exposed to these treatments more often than are HIGs. The finding of significant differences of frequencies of corrective error treatments for high and low interactors found in these two classes supports the interpretation of a differential frequency of treatment for different types of interactors in ESL classrooms.

Types of Corrective Error Treatments

The nature of this relationship is further clarified by way of the results supporting rejection of the second and third null hypotheses. In both classes, HIGs received proportionately more covertly corrective and less overtly corrective error treatments than LIGs. High interactors' errors were not only treated less often than low interactors' errors, but they were treated less overtly. HIGs were prompted or cued to self-correct through covertly corrective treatment for their errors more often than were LIGs. The indirect feedback provided by covert correction directs the learners by signalling an error without specification of the correct response. This forces the learners to assume an active role in language learning, to alter their own developing rule

systems (or interlanguages) (Selinker, 1972). Through covert correction, teachers provide the learners with feedback which enables them to reject a tested hypothesis and to modify a rule that governs their language output.

In contrast to high interactors, low interactors received more overtly corrective error treatments, treatments which directly corrected the learner's utterance. The correct response is more readily available to the learner through this overt correction but fails to engage the learners in an active response. The learners err and the teacher provides the correct model or specifies the error without encouraging them to revise their original utterances. Explicit feedback, however, in the form of overt correction, is apparently the type of feedback that low interactors accept and need. Fanselow (1977) suggested that learners require explicit feedback in order to know what their error was or how it was incorrect. He felt that "explicit feedback that indicates whether something is wrong as well as how it is wrong can help develop understanding" (1977, p. 589). The results of this study indicate that some learners, the low interactors, do indeed receive this explicit feedback more often than another type of learner, the high interactor. Low interactors may benefit from overt correction, whereas high interactors progress via covert corrections and non-corrective responses to errors.

Contextual Clues

The context of these results provides additional clues to the nature of the relationship under study. Each class observed was taught by a different teacher, who managed the students, organized the lessons and utilized activities differently. Yet the results indicated similar relationships between responses to error and interactor type.

In class B, where students were specifically encouraged by the teacher to answer during manipulative exercises, the learner characteristic of interactor type related both to the frequency and type of corrective error treatment administered. There was a significant difference between the frequency of corrective error treatments for HIGs and LIGs. HIGs were also prompted to self-correct more often than LIGs, and LIGs were directly corrected more often than HIGs. This clear direction of results was displayed in class B during a wide range of activities and with a teacher-student talk ratio of 40:60. Learner-centered activities, in the form of informal discussions and pair work, as well as teacher-centered activities, such as pronunciation drills and grammar exercises, produced the significant results in this class. During the learner-centered activities, communicative practice which involved an honest exchange of previously unknown information shifted the focus from form to meaning. This shift in focus often results in a shift in expectations by the teacher as to grammatical competence, and a greater tolerance

for errors (Van Patten, 1985). The greater amount of communicative interaction as a result of more learner-centered activities in this class versus that in class A produced a variety of responses to error that were significantly related to interactor type in the same way as in class A.

In class A, use of students' native language was not discouraged, multiple answers were allowed, student-student interactions in English were not emphasized, and most of the activities were teacher-centered, resulting in a teacher-student talk ratio of 70:30. As in class B, a significant difference was found between interactor type and frequency of corrective error treatments. No significant difference for types of corrective treatments and interactor types was found in this class although the raw data display the same pattern of frequencies of overtly and covertly corrective treatments in relation to interactor type. Relative to their errors, the HIGs in class A did receive proportionately more covert corrections and less overt corrections than the LIGs. A slightly more balanced approach to errors for this class than for class B is likely a result of other influences, such as types of activities and pedagogical focus. In class A, there was a consistent focus on teacher-centered, manipulative activities that emphasized specific correct forms. Language-centered activities such as vocabulary and grammar exercises required the students to provide a predetermined response, disallowing variation, often generating errors, and, thus,

opportunities for error feedback. During manipulative exercises, all students, regardless of interactor type or other learner characteristics, were given the opportunity to respond, as teacher A did not solicit responses from specific students. They all risked error and error correction because of the emphasis on correct form. As Kasper (1985) indicated, during language-centered activities, corrective error treatment is more likely than during content-centered activities, when the target language is being used for meaningful exchanges of information. The higher incidence of activities whose pedagogical focus was correct language form may have influenced the frequency of corrective error treatments in this class. In any case, the frequencies of overt and covert error treatments follow the same pattern in relation to interactor type for class A as for class B; that is, HIGs received proportionately more covertly corrective treatments than LIGs, and LIGs received proportionately more overtly corrective error treatments than HIGs.

Even though the two classes were managed differently, similar results relevant to the two variables studied were found. Despite different amounts of learner-centered and teacher-centered activities, both classes revealed a significant difference between the frequency of corrective error treatments and interactor type. The dissimilar makeup of the subjects and lessons did not appear to affect this relationship. Interactor type and frequency of types

of corrective error treatments also appear related in both classes where the LIGs received proportionately more overt corrections than covert corrections in response to their errors. Low interactors were corrected directly whereas high interactors were expected to self-correct and play an active role in the correction of an error more often than low interactors.

By interacting in the target language and actively participating in classroom activities, some learners assume a greater responsibility for their own language learning and play a larger role in structuring feedback. In reference to language classrooms, Gaies (1983) suggested that, "Even where attempts were continually made to equalize students' opportunities for participation and to structure the nature of that participation, not all learners ended up participating to the same degree--or in the same way" (p. 191). The two interactor types, HIGs and LIGs, displayed very different patterns of participation through their use of self-initiated utterances and in terms of the intensity of their interaction in the classroom. The high interactors chose to interact more often than the low interactors by initiating interaction rather than waiting for teacher solicitations. In this manner, the HIGs regulated to some degree the feedback which they received, their initiated interactions providing them with directed or personalized input and, consequently, opportunities for the conversion of that input to intake.

The feedback administered following self-initiated utterances and during communicative activities in both classes demonstrated the teachers' concern for modelling natural conversation and for providing the learners with opportunities to exchange information. Following self-initiated utterances, little or no correction was administered. When a student initiated an interaction, requesting clarification or eliciting information, the teacher most often responded to the communicative intent of the utterance, rather than to the form. Non-corrective responses were prevalent following errors committed during self-initiated utterances, resulting in an exchange of information. Attention to content provided the learner with feedback focused on meaning rather than on form, resembling the feedback displayed during a communicative exchange in natural discourse. This same type of feedback was observed during communicative, learner-centered activities. Corrective error treatments were not administered to local errors as often as to communicative errors, those which hindered a successful exchange of information. During these interactions, both teachers promoted successful communication by their students as well as positive environments for hypothesis-testing. Students were not daunted by a lack of vocabulary or grammatical knowledge. It was what they had to say that was important, not how they said it. Non-corrective responses to local errors allowed the flow of conversation to continue without interruption for correction of

form. The high interactors, who received a higher frequency of non-corrective responses during all activities, were thus allowed to converse more naturally than low interactors. The lower frequencies of corrective error treatments and higher frequencies of non-corrective responses noted for HIGs tend to reward them for their input by allowing a successful communicative exchange more often than for LIGs.

A complex relationship exists between the patterns of interaction displayed by different types of learners and the responses they receive to their errors. These two variables, responses to error and interactor type appear to be strongly interdependent within the language learning processes occurring in adult ESL classrooms. Low interactors may not be shaped by the overtly corrective error treatments they receive, nor may the high interactors be a result of the responses they receive. Nonetheless, a relationship exists between these two classroom variables, a relationship which connects feedback and learners' patterns of interaction in specific ways. Both the frequency and the type of feedback relate to interactor type: high interactors receive proportionately less corrective feedback than low interactors; low interactors receive proportionately more overtly corrective error treatments than high interactors, and high interactors receive proportionately more covertly corrective error treatments than low interactors.

Conclusions and Implications

High input generators, as classified in this study, initiate interaction more often than low input generators. By seeking opportunities to practice the target language, they utilize a strategy associated with successful language learning (Rubin, 1975; Carroll, 1977). In his study of these two interactor types Seliger concluded that, "The end result of their [the high input generators'] behavior is a competence which develops at a faster and perhaps qualitatively better rate" (1977, p. 274). The HIGs' success, he suggested, was closely associated with their active role in the language learning process. This active role and intensive interaction patterns result in the direction of more input, and hence, in the provision of greater opportunities to convert that input to intake. In the present study, input to HIGs following their errors has been found to consist primarily of covert corrections and non-corrective responses. If these observations are accurate, then it seems reasonable to propose that both the active role of the learner and specific types of responses to errors by the teacher could be encouraged in an effort to promote successful language learning strategies.

Active classroom participation is an important facet of language learning as currently viewed within communicative language teaching theory. The rules that govern language behavior are more successfully learned by learners who actively engage in interaction

and practice the target language. As Bailey and Celce-Murcia. (1979) indicate, "it is an axiom of modern language teaching that active use of the language is crucial to good language learning" (p. 321). Encouragement of student participation can aid the language learner by providing opportunities to become actively involved. Specific techniques for providing student participation in the classroom can include group and pair work, distancing the teacher and allowing student-student interaction, as well as spontaneous communicative exchanges.

Some responses to error, although dependent on variables such as type of activity and error type, can be considered as significant in the encouragement of active classroom participation. Both covertly corrective error treatments and non-corrective responses tend to promote participation and interaction on the part of the learner by providing opportunities for meaningful exchanges. In prompting self-correction, teachers administering covertly corrective error treatments encourage the learner to reassess and modify the rule used to form the utterance that contained an error. In Hendrickson's (1978) review of research on error correction, self-correction with teacher guidance is suggested as an effective instructional strategy, in contrast to the ineffectiveness indicated by direct types of corrective procedures. The results of this present study support the adoption of techniques that encourage self-correction, as in the

case of successful intensive classroom interactors (HIGs). Direct, overtly corrective error treatments were more often administered to low interactors, propagating a lower intensity of interaction by not requiring the learner to self-correct. The focus on meaning during non-corrective responses with the corresponding absence of interruptive attention to form positively reinforces learners' attempts at communication. Specific responses to error, that is those which prompt self-correction and those which focus on meaning, tend to generate further learner participation.

There appears to be a link between responses to error and learner participation, an interdependence which has practical implications for classroom language teaching. Teachers can control both their responses to error and learner activity in an effort to stimulate those classroom behaviors which may result in effective language learning. The redirection of covertly corrective error treatments to low interactors may encourage those interactors to take a more active role in their linguistic development by forcing attempts at self-correction. This does not imply total avoidance of overt correction, for some activities or situations demand this type of error treatment--particularly manipulative activities that direct the learner's attention to newly acquired grammatical patterns or vocabulary. However, low interactors may sometimes welcome the opportunity to self-correct, in order to demonstrate their abilities to modify rules. This activity may

generate self-confidence that will stimulate attempts to interact more often.

Teachers could also produce more interaction from low interactors by providing opportunities for student-student interaction where each participant in the dyad is required to initiate some communicative exchange. Low interactors could be given more practice at asking questions and personally commenting on a topic to stimulate meaningful practice within the confines of the classroom where a non-threatening atmosphere provides support to a learner who is generally hesitant to initiate communication. Teachers' attention to interactor type is necessary to bring about a change in the cycle of classroom behaviors revealed in this study. This cycle perpetuates active participation by high interactors, who receive responses to error which encourage self-correction or which acknowledge the communicative intent of an utterance. Low interactors, however, receive more corrective error treatments, and more overt corrections which do not promote an active learner role. It may not be possible to alter a learner's style of interaction. Through attention to activities that stimulate learner interaction and types of responses to error, however, language teachers may affect the product of the formal language learning environment.

Limitations

The language classroom provides excellent conditions to reveal

what is involved in the complex process of formal language acquisition. Classroom-oriented research is applicable to actual classroom teaching, an advantage welcomed by educators who are often faced with research findings which are not necessarily adaptable to practice. The results from this study indicate a significant relationship between the two variables, interactor type and responses to error, across two different classrooms and participants. In interpreting the results, however, some limitations inherent to descriptive research must be recognized. First, the non-experimental conditions of a classroom provide data which have not been controlled for. The absence of such controls naturally limits the confidence with which causal relationships can be concluded. Other possible variables may have had confounding effects on the results. For this reason, the quantitative data were supplemented with qualitative data that described the environment and led to observations about possible influences on the specific relationship. Second, these results may not be generalizable to all types of formal adult ESL classrooms: many possible teacher-student relationships exist other than those observed here. Despite the limitations, descriptive research can successfully identify variables and possible relationships in a way which leads to further interesting research questions (Best, 1981). It was with the intent of such identification that this research was undertaken.

Further Research

This study suggests several interesting questions for further research on responses to error and their effects on patterns of interaction in the second language classroom. Responses to error vary according to interactor type, but more research is necessary to determine if interactor type is a result or a stimulus to the types and frequencies of responses administered to errors. The further experimental manipulation of responses to error could lead to new insights into their effects on interactors. Some interesting questions may be: if high interactors received a high frequency of corrective error treatments, would they tend to decrease their participation and change their patterns of interaction? On the other hand, if low interactors were responded to with non-corrective responses, would they increase their participation in classroom discourse? This type of research could lead to the development of more specific related teaching techniques.

Interesting questions also remain in the study of the value of different types of corrective error treatments for the development of communicative competence for all learners. How much do overtly corrective treatments benefit language learners? Does covert correction affect the proficiency of language learners? Can covertly corrective error treatments aid learners who are self-conscious and reticent about oral production? Do

non-corrective responses satisfy the adult learner who is often seeking explicit correction by attending an ESL class?

Following the results of this descriptive study, only tentative answers can be offered. More analyses of ESL classrooms must be undertaken to clarify further the relationship between responses to error and interaction in formal language learning environments.

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