

Corrective Feedback and Learner Uptake in Adult ESL Classrooms

Mikiko Suzuki¹

Teachers College, Columbia University

ABSTRACT

This article presents a study investigating the relationship between corrective feedback and learner uptake in adult ESL classrooms. Inspired by Lyster and Ranta (1997), the present study describes and analyzes the patterns of corrective feedback and learner uptake, observed in a different context from that of Lyster and Ranta's study. The database consists of 21 hours of interaction between three ESL teachers and thirty-one adult ESL students. The interaction was audiotaped and transcribed, and then coded according to Lyster and Ranta's corrective discourse model. The results show both similarities and differences to those in Lyster and Ranta's study. While the distribution of types of corrective feedback following learner errors showed no major difference from that reported by Lyster and Ranta, the ratio of uptake following certain corrective feedback types greatly differed from their results. Possible accounts for the differences in the results are discussed from the aspects of the classroom setting, students' ages and their motivation of participating in the language learning programs, teachers' experience, and the target language.

INTRODUCTION

Over the past two decades, corrective feedback and learner uptake have been targets of investigation for researchers working in the field of classroom second language acquisition (SLA). One of the researchers examining the effects of such teacher-student interactional moves is Lyster, who worked extensively on the observational classroom research in French immersion programs in Quebec, Canada (Lyster, 1994, 1998a, 1998b, 1999; Lyster & Ranta, 1997). Of particular interest is a study by Lyster and Ranta (1997), in which they identified different types of corrective feedback and student uptake. In their study, corrective feedback is described as the provision of negative evidence or positive evidence upon erroneous utterances, which encourages learners' repair involving accuracy and precision, and not merely comprehensibility. Also, learner uptake is defined as a student's utterance that immediately follows the teacher's feedback, and that constitutes a reaction in some way to the teacher's intention to draw attention to some aspect of the student's initial utterance (Lyster & Ranta, 1997).

¹ Mikiko Suzuki is a doctoral candidate in Applied Linguistics at Teachers College, Columbia University. Her research interests include the role of learner uptake in classroom SLA, teacher-student and student-student interaction, and pedagogical interventions and their effectiveness on second language learning. Correspondence should be sent to Mikiko Suzuki, 212 West 91st Street, #533, New York, NY 10024. E-mail: ms2102@columbia.edu.

Lyster and Ranta's study is significant in that it offered a systematic picture of patterns of interactional moves between teachers and students, such as the type of feedback arising from different types of errors, and the type of feedback that leads to more uptake. In addition, their analytical models facilitate further examination of the interactional sequences expected to occur between teachers and students. Based on the interactional patterns revealed in Lyster and Ranta's (1997) study and the research on the nature of specific types of corrective feedback (e.g., Han, 2002; Mackey, Gass, & McDonough, 2000; Ohta, 2000), it is possible to suggest ways for students to produce more output, which is considered to be effective for L2 acquisition (Swain, 1985). Also, Lyster and Ranta's findings could serve as a basis for SLA research that investigates whether feedback-uptake sequences indeed contribute to language learning.

Studies on the relationship between corrective feedback and learner uptake, including Lyster and Ranta's (1997) study, have largely been conducted in French immersion classrooms. Hence, it is considered worthwhile to look into this relationship in more widespread second language learning settings in the U.S, namely, adult English as a Second Language (ESL) classrooms. Accordingly, examining the study of Lyster and Ranta (1997) in adult ESL classroom settings could play a role in confirming whether similar patterns can be observed in other second language learning settings.

This paper begins with a review of the relevant literature on theoretical issues and early studies on corrective feedback and uptake, followed by a description of the database and the design of the current study. Coding categories for errors, corrective feedback, and uptake are reviewed using examples from the present data. The results are then presented, and discussed in light of Lyster and Ranta's (1997) findings. Lastly, limitations and implications of the study are examined.

LITERATURE REVIEW

One of the basic theoretical claims on which the notions of corrective feedback and uptake have been developed is the Output Hypothesis suggested by Swain (1985). The Output Hypothesis was proposed based on Swain's observation of French immersion classrooms, where grade school students learn French through content-based classes. In her observation, the students in the French immersion classrooms had little difficulties in comprehending teachers' instructions given in French, but their production often lacked accuracy. Consequently, Swain proposed the Output Hypothesis, which stated that comprehensible input (Krashen, 1985) alone does not improve learners' language acquisition in terms of syntax, and that the production of output in response to input is necessary for further language development. With regard to learner production, Swain emphasized the importance of the role of modified output, arguing that it is necessary for second language mastery. Swain further suggested that modified output could be the result of ample opportunities for output and the provision of useful and consistent feedback from teachers and peers. Later, she proposed that modified output is the representation of "the leading edge of a learner's interlanguage" (Swain, 1995, p. 131).

In the context of teacher-learner interaction, modified output can be manifested in the form of learner uptake, or learner reaction to teachers' corrective feedback given to learners' error. Corrective feedback, for example, is a pedagogical means of offering modified input to students, which could consequently lead to modified output by the students. While discussing the Interaction Hypothesis (Long, 1983), Long (1985) described the relationship of input, interaction,

and acquisition as follows: (1) interactional modification makes input comprehensible, (2) comprehensible input promotes acquisition, and (3) interactional modification promotes acquisition. Based on Long's description, corrective feedback and learner uptake could be considered effective processes for language development, especially when corrective feedback and learner uptake serve as a source of interactional modification.

Another theoretical basis for discussing the effectiveness of corrective feedback can be found in the argument that language learning may require negative evidence, or information about what is ungrammatical. Regarding the learnability argument that comprehensible input may not be sufficient for acquisition, researchers such as White (1987, 1989) have argued for a need for negative evidence if second language learners' aim is to attain nativelike proficiency. Negative evidence is considered effective when learner hypotheses based on L1 structure lead to L2 overgeneralizations that are impossible to overcome on the basis of positive evidence alone (Long, 1996). As negative evidence is given in response to erroneous forms that learners produce, it can take the form of corrective feedback in the context of classroom interaction.

Learner uptake is considered worth examining in relation to the notions of attention (Logan, 1988) and noticing (Schmidt, 1990, 1995). Logan stated that, in the course of language learning, attention is necessary and sufficient for extracting items (i.e., linguistic input) from a stimulus array. When this claim is extended to the discussion on how to determine which items students have attended to, it may be pointed out that uptake is one way of showing which items learners have attended to in the preceding corrective feedback. Similarly, Schmidt (1995) proposed the notion of noticing as a subjective manifestation of attention, and also asserted that noticing is a necessary and sufficient condition for converting input to intake. Although there has been no research that explicitly demonstrates that uptake is an oral manifestation of noticing, it may well be speculated that there are some noticed linguistic features involved in learners' uptake. For this reason, it is worthwhile to examine uptake as a possible indicator of language development.

In relation to Schmidt's (1995) idea that noticing facilitates the acquisition of input, Long (1996) examined the context in which noticing could occur, and argued that selective attention can be paid most effectively during negotiation for meaning. Moreover, he maintained that feedback obtained during negotiation work might be facilitative of the L2 development in vocabulary, morphology, and syntax. That is, negotiating communication difficulties creates comprehensible input, which contains salient linguistic features that learners could notice more easily than other features. This claim might also support the notion of the effectiveness of the feedback-uptake sequence, especially when feedback focuses on linguistic errors and gives learners an opportunity to negotiate with their interlocutors what was incorrect in their original utterances.

Corrective feedback and learner uptake have often been observed and examined in the realm of classroom research, and one of the major motivations for investigating the sequence of corrective feedback and uptake was to identify patterns of error treatment in different classroom settings. The discussions on how error treatment should be given have developed in the field of classroom SLA (Allwright & Bailey, 1991; Chaudron, 1988; DeKeyser, 1993). The issues discussed include when, which, and how errors should be corrected, as well as whether learners' errors should be corrected at all. Among the examined issues, the question of whether learners should be corrected has been investigated in studies such as Carroll, Roberge, and Swain (1992) and Carroll and Swain (1993), both of which dealt with the provision of corrective feedback on certain linguistic forms, in a controlled experimental setting. The study of Carroll et al. (1992)

examined adult French learners who were trained in use of French suffixation rules and given feedback on their misuse. Carroll and Swain (1993), on the other hand, investigated adult English learners who were given different kinds of feedback while learning the English dative alternation rule. These studies attempted to look at the effect of feedback on learners' misuse of certain linguistic forms, but due to the nature of the research, they did not reveal possible effects of error treatment in communicative language classrooms.

Spada and Lightbown (1993), White (1991), and White, Spada, Lightbown, and Ranta (1991) examined intensive ESL classrooms to see the effect of corrective feedback in combination with form-focused instructional materials. These studies involved structured experiments with pretests and posttests on particular linguistic forms. Specifically, Spada and Lightbown (1993) and White et al. (1991) targeted question formation, while White (1991) focused on adverb placement. There were positive effects observed in the ESL learners whose native language was French, but these results did not reflect the effectiveness of error correction alone in the highly controlled experiments, which involved intensive form-focused instruction.

The effects of error correction alone were examined in the study of DeKeyser (1993), who investigated the students' improvement on grammar use. Unlike the studies described above, there were no specific linguistic targets in giving corrective feedback during the treatment phase of the experiment, while the posttests sought to reveal the improvement of learners' grammar proficiency. Specifically, the subjects were Belgium high school students learning French as a second language, and the experiment took place over one school year. The students' L2 proficiency was measured by administering pretests and posttests. At the same time, the researcher also collected data on the students' language learning aptitude, motivation, and class anxiety. While the findings did not show an overall positive effect of error correction on the students' L2 proficiency, they did reveal the association between error correction and learner variables, such as motivation and anxiety levels. DeKeyser's error correction study is provoking in that it sheds light on the fact that the effectiveness of corrective feedback may interact with learner characteristics.

While the question of how to provide error correction seems one of the primary interests for classroom researchers, another interesting issue concerns how often and accurately learners perceive teachers' corrective feedback. Doughty (1994) examined adult learners of French who received corrective feedback in the classroom, to observe to what degree they perceived the feedback as feedback and actually responded to it. The learners responded to recasts with forms of repetition 21% of the time, with 70% of the entire corrective feedback consisting of recasts. Similarly, Mackey et al. (2000) investigated 17 non-native speakers to specifically discover which kinds of feedback led to increased learner perception as feedback given to their linguistic errors. They found that the learners were relatively accurate in their perception of lexical, semantic, and phonological feedback, but morphosyntactic feedback was not generally perceived as such. Regarding the relationship between the kinds of corrective feedback and learners' errors, recasts were mostly provided in response to morphosyntactic errors. Negotiation of form (elicitation, clarification request, repetition of the error, and metalinguistic feedback) occurred in response to phonological errors. Although this study did not mention what types of negotiation of form were effective in leading to learner repair, it did point out that there was a relationship between learner error types and feedback types, and between feedback types and learner perception.

Similarly, to investigate the relationship between error types and kinds of feedback, and learner uptake, Lyster and Ranta (1997) categorized error, feedback, and uptake. They developed

an analytic model comprising various moves involving errors (phonological, grammatical, and lexical), corrective feedback (recasts, explicit correction, elicitation, clarification, repetition of error, and metalinguistic feedback), and uptake (self- or peer repair and needs-repair). The subjects were grades 4 or 5 students in a French immersion program, and data were collected through recording teacher-student interactions in various kinds of classes including language arts classes. The findings showed that while recasts were the most widely used corrective feedback, they were the least likely to lead to successful uptake. It was also found that the most successful type of feedback leading to students' repair was elicitation.

Although Lyster and Ranta (1997) caution that uptake is not necessarily indicative of learning, it is worth examining what leads to uptake, especially learner repair, since it is likely that learner repair benefits the development of L2 accuracy. Furthermore, their analytic model built upon the relationship among error types, kinds of corrective feedback and uptake is worth being applied to other learning contexts, since the research reviewed here yielded different results due to the different instructional settings. To compare the results of Lyster and Ranta's study with those of a study conducted in a different context might reveal effective interactions between teachers and students, which can be facilitative of SLA. The studies reviewed above that deal with classroom observation were predominantly conducted in a French learning context. As English seems to be the most popular second language taught in North America, and as it is impossible to generalize from one language context to another, it seems important to conduct a classroom observation study in an ESL context. Panova and Lyster (2002) examined the patterns of corrective feedback and uptake in an ESL classroom in Quebec, Canada, but it seems that the classroom they observed was unlike many ESL classrooms in North American contexts and that it was more similar to EFL contexts. This is characterized by their statement that the instructional setting in their study is similar to that in Lyster and Ranta's, in that students in both studies "shared a common language other than the target language" (p. 590), and this is the average situation of EFL classrooms, not of ESL classrooms in general.

In the present study, the focus is on a typical U.S. ESL context where people of many nationalities and language backgrounds study English together. As the present study aims to compare the results with those of Lyster and Ranta's (1997) study that illustrated the relationship between feedback types and learner uptake, the research questions are the same as Lyster and Ranta's:

- (1) What type of learner errors lead to what types of corrective feedback?
- (2) What are the different types of corrective feedback and their distribution in adult ESL classrooms?
- (3) What is the distribution of uptake following different types of corrective feedback?

THE STUDY

Participants

The data were collected from ESL classrooms sponsored by the TESOL/Applied Linguistic programs at Teachers College, Columbia University in New York City. The participants for this study were two intermediate level classes, where the registered number of the students were 13 and 18, giving a total of 31 students. Students' attendance in the two classes varied, and the number of participants was between 8 and 15 per class. The students' information

was gathered from the teachers of the classes who had initially surveyed the information for their records. The students' information is tabularized in Table 1.

TABLE 1
Students' Information

Country of origin	Age range	Motivation for learning English	Average length of stay in USA	Average length of previous English study
<ul style="list-style-type: none"> • Colombia (7) • Peru (4) • Japan (4) • Poland (3) • Korea (3) • Dominican Republic (2) • Brazil (2) • Hungary (2) • Bulgaria (1) • China (1) • Spain (1) • Russia (1) 	Early 20s – 50s	<ul style="list-style-type: none"> • To improve their English skills to be comfortable in their workplaces • To enter American colleges • To brush up their daily use of English 	Approximately 2.5 years	3 years to 10 years at school or at home in their countries

The participants' ages ranged from early 20s to 50s. They resided in the New York City area, originally coming from many different countries – Colombia, the Dominican Republic, Peru, Brazil, Poland, Hungary, Russia, Korea, and Japan. The average length of stay in the United States was approximately 2.5 years. Most of them were enrolled in the ESL course because they wanted to improve their English skills so that they could be comfortable in their workplaces. Some wanted to learn English to enter American colleges, and a few were there to brush up their daily use of English. Most of them had learned English in their home countries for 3 to 10 years at school or at home before coming to the United States.

Three teachers agreed to participate in the study. They were graduate students in the TESOL program at Teachers College, Columbia University, and it was part of their degree requirement to teach in the program three times a week, two hours at a time. Two teachers were assigned to teach one class, suggesting team teaching. The data were collected from two teachers of one intermediate class and one teacher of the other intermediate class. They were all novice teachers, who had no prior experience in teaching ESL. Their teaching was part of a practicum course, and it was supervised by their professor. In the practicum they discussed how to conduct classes, how to observe peer teaching, and they read relevant research articles to supplement or expand their knowledge about teaching. The three teachers were all in their 20s, and they were very motivated to become better teachers. They tried many different kinds of teaching methods throughout the period of the observation for this study. The teachers' background information is provided in Table 2.

TABLE 2
Teachers' Background Information

	Teacher 1 (T1)	Teacher 2 (T2)	Teacher 3 (T3)
Gender	female	female	female
Age	early 20s	early 20s	early 20s
L1	Cantonese	Japanese	English
Length of residence	2 months	9 years	-
Proficiency in English	native-like; educated at schools whose language of instruction was English	native-like; went to grade school and middle school in the US	native speaker
Teaching experience	EFL to young children in her country	none	none

Teacher 1 (T1) was a female, non-native English speaker whose native language was Cantonese. Although her first language was not English, she was educated at schools where the medium language was English, and she spoke English fluently without a distinctive foreign accent. She had taught English to young children in her home country, but had no adult ESL teaching experience. Teacher 2 (T2) was also a female, non-native English speaker who was brought up in Japan. However, she went to the grade school and middle school in the US and her English was native-like. She had no prior teaching experience. Teacher 3 (T3) was a female native speaker of English, who also had no prior ESL teaching experience.

Data Collection

The interaction between the teachers and their students was recorded with a portable cassette tape recorder, and was transcribed by the researcher. The content of the classes recorded included grammar lessons, listening practice, and discussions about the reading topics in the textbook. Since the present study was meant to be purely observational and descriptive, there was no control over the way the teachers conducted their classes. Neither the teachers nor students were informed of the purpose of tape-recording. The total number of hours of recordings was 21 hours: 7 hours per teacher. Note taking was conducted at the same time of recording, for the purpose of supplementing transcription for any inaudible part of recorded data.

CODING AND ANALYSIS

Coding Definitions

The coding definitions for the present study were adapted from those developed by Lyster and Ranta (1997). Lyster and Ranta described the error treatment sequence as learner error, teacher feedback, and learner uptake, and the present study follows their description thereof. That is, error types are categorized as phonological, lexical, and morphosyntactic; corrective feedback types are labeled as recasts, explicit correction, elicitation, clarification

requests, repetition of error, and metalinguistic feedback; and finally, uptake is divided into repair and needs-repair.

There are some modifications in categorizing error types in the present study. In Lyster and Ranta's (1997) study, they found six kinds of learner error by French immersion students: L1 unsolicited, gender, grammatical, lexical, phonological, and multiple. Lyster and Ranta had a category of *L1 unsolicited error* for cases where learners used their L1 (English) in an interactional move. However, in the current study, the category of *L1 unsolicited error* was not included because the learners' L1 backgrounds were not homogeneous, and investigation of errors induced by various L1s was beyond the scope of this study. Since French was the target language in Lyster and Ranta's study, they created the category of *gender error* for learner errors related to grammatical gender in French, and it was excluded in the current study since it is not applicable to English, the target language of the current study. The category of *multiple error* was also not included in the error types for the current study, for two reasons. First, there were only a few instances of combinations of error types shown in a learner turn in this data set. Secondly, if there were a case of multiple error, the error was categorized based on the linguistic form that the subsequent corrective feedback targeted. Here is one such instance:

S: My daughter go to intermediate ([intmidieit]) school.

T: Intermediate.

S: Yeah.

In the student's first utterance, he made a grammatical error in the use of *go*, and a phonological error in pronouncing *intermediate*. The teacher provided corrective feedback in the form of recast on the pronunciation of *intermediate*, not responding to the grammatical error *go*. In this case, the student's first utterance was coded as *phonological error*. Since one of the purposes of this study is to see what kind of error leads to which type of corrective feedback, the current study focused on actual sequences of learner error and teacher feedback. Learner errors that were not responded to with corrective feedback were not included in the analysis of error treatment sequence in the current study.

Accordingly, in the present study, three types of error were analyzed: grammatical errors, lexical errors, and phonological errors. Grammatical errors were non-target like use of determiners, prepositions, pronouns, number agreement, tense, verb morphology, and auxiliaries. Additionally, errors in pluralization, negation, question formation, and word order were considered as grammatical errors. Lexical errors included inaccurate use of nouns, verbs, adverbs, and adjectives, in the sense of open classes, or word groups whose membership is in principle indefinite or unlimited (Crystal, 1991). For example, an error such as *one people* was considered a grammatical error where the noun *people* was a misuse of the noun *person*, because this error resulted from number agreement between an adjective and a noun. The number agreement error was in the grammatical category rather than in the lexical category. However, an error such as *her mother gave birth to one people* was counted as a lexical error, since the error is not about grammatical number agreement of *one* to *people* but rather about inappropriate lexical choice of *people* for *baby/boy/girl*. Phonological errors were inaccurate pronunciation of words that often led to difficulty of comprehension of the target words. In case that mispronounced words were comprehensible to the teacher, the words were still considered to have phonological errors when the words were given corrective feedback.

Types of Corrective Feedback

The six different types of feedback that Lyster and Ranta (1997) identified were used to categorize teachers' feedback in the current study. Definitions of the six types of feedback in this study precisely followed the ones in the Lyster and Ranta study. The following explains each feedback type, along with examples from the actual data collected in the present study.

1. *Explicit correction.* This refers to the explicit provision of the correct form. As the teacher provides the correct form, he or she clearly indicates that what the student had said was incorrect (*No, what you said was wrong, or You don't say...*). On occasion, the wrong form is identified along with providing a correct form in the teacher's turn.

(1) (T2 – Oct. 31)

S: So we write pacific [paʃifik] (Error – phonological)

T: Say [pasifik], not [paʃifik] (Feedback – explicit)

(2) (T3 – Nov. 15)

S: Smoking should be banned [banid] in all bar and restaurants. (Error – phonological)

T: Yeah the word *banned*, you say *banned* [bænd] (Feedback – explicit)

2. *Recasts.* These involve the teacher's reformulation of all or part of a student's utterance, minus the error. They are generally implicit in that they are not introduced by phrases such as *You mean*, and *You should say*. That is, the teacher would not indicate nor point out that the student made an error, but merely give a correct form.

(3) (T3 – Nov. 4)

S: You should go see doctor. (Error – grammatical)

T: the doctor. (Feedback – recast)

(4) (T1 – Oct. 9)

S: In the middle is good. Neutral [neutral]. (Error – phonological)

T: Oh neutral [nju:tral]. (Feedback – recast)

3. *Clarification requests.* These are either in the form of question such as *Pardon?* and *I'm sorry?* or attempts to reveal the intended form of the error with the rising tone. This type of corrective feedback is used when there are linguistic problems in the learner's turn, and also when the learner's utterance is not comprehensible. Unlike explicit correction or recasts, clarification requests can refer to problems in comprehensibility.

(5) (T2 – Nov. 7)

S: result [result] of something (Error – phonological)

T: What did you say? (Feedback – clarification)

(6) (T3 – Nov. 6)

S: He sick [sæk] (Error – phonological)

T: sick? (Feedback – clarification)

4. *Metalinguistic feedback.* This contains either comments, information, or questions related to the well-formedness of the student's utterance, without explicitly providing the correct form. It

points to the nature of error but attempts to elicit the information from the student. This kind of corrective feedback makes the learner analyze his/her utterance linguistically, not quite in a meaning-oriented manner.

(7) (T2 – Nov. 7)

S: She without. (Error – grammatical)

T: without... what is the verb? (Feedback – metalinguistic)

5. Elicitation. This refers to techniques that teachers use to directly elicit the correct form from the student. One technique is that teachers elicit completion of their own utterance by strategically pausing to allow students to *fill in the blank* as it were. The other technique is that teachers use questions to elicit correct forms. Either way, teachers do not provide correct forms in their turn.

(8) (T3 – Oct. 30)

S: Because I enjoy city life [laip] (Error – phonological)

T: City... (Feedback – elicitation)

6. Repetition. This refers to the teacher's repetition, in isolation, of the student's erroneous utterance. In most cases, teachers adjust their intonation so as to highlight the error.

(9) (T2 – Nov. 4)

S: When I don't understand what garden [kuden] is in Japan, (Error – phonological)

T: [kuden]? (Feedback – repetition)

Uptake Types

The definition of uptake for the present study was also adapted from Lyster and Ranta's definition of uptake. That is, uptake is "a student's utterance that immediately follows the teacher's feedback and that constitutes a reaction in some way to the teacher's intention to draw attention to some aspect of the student's initial utterance" (Lyster & Ranta, 1997, p. 49). Lyster and Ranta categorized uptake moves into *repair* when the uptake move resulted in repair of an error, and *needs-repair* when an error was not repaired in the uptake move. In the current study, *no uptake* was considered as the third category. No uptake referred to the case where teacher feedback was not responded to nor reacted to by the student at all. No uptake instances were considered worth analyzing since it would reveal what kind of feedback was not likely to lead to uptake.

Lyster and Ranta distinguished four kinds of repair in their study: repetition, self-repair, peer-repair, and incorporation. Some examples of the first three kinds of repair follow.

1. Repetition. A student repeats the correct form given in the teacher's feedback when the feedback includes the correct form.

(10) (Nov. 4 – T3)

S: You should go see doctor. (Error – grammatical)

T: The doctor. (Feedback – recast)

S: The doctor. (Repair – repetition)

2. Self-repair. This refers to a self-correction, produced by the student who made the initial error, in response to the teacher’s feedback when the latter does not already provide the correct form.

(11) (Oct. 9, T1)

S: Do the parents time to do so? (Error – grammatical)

T: What? (Feedback – clarification)

S: Do the parents... pare, parents time, do the parents have time to do so? (Repair – self repair)

3. Peer-repair. This refers to peer-correction provided by a student, other than the one who made the initial error, in response to the teacher’s feedback. The nature of this uptake type is the same as self-repair.

(12) (Oct. 30 – T3)

S1: There is poor (Error – phonological)

T: Sorry? (Feedback – clarification)

S2: Pool. (Repair – peer repair)

In addition to the above three kinds of repair, there was another kind of repair called *incorporation* in Lyster and Ranta (1997), which referred to “a student’s repetition of the correct form provided by the teacher, which is then incorporated into a longer utterance produced by the student” (p. 50). However, the instance of incorporation was not observed in the data for the current study, so the category is omitted here.

The other type of uptake is *needs-repair*, which refers to a situation where the learner responds to the corrective feedback but the learner’s utterance does not result in repairing the original erroneous utterance. In Lyster and Ranta (1997), there were six types of needs-repair identified in their data: *acknowledgement*, *same error*, *different error*, *off-target*, *hesitation*, and *partial repair*. The current study adopts their categorization of needs-repair, except for hesitation. Hesitation referred to “a student’s hesitation in response to the teacher’s feedback” (p. 51) and this kind of needs-repair was not observed in the data.

1. Acknowledgement. The learner positively recognizes teacher’s feedback, generally saying *yes* or *yeah*, as if to say, *Yes, that is what I meant to say*.

(13) (Oct 30 – T3)

S: Two people go out, and pay for one people price... I don’t know (Error – grammatical)

T: Exactly. That’s exactly what you said. Two people go out and pay for one person.
(Feedback – recast)

S: Yeah. (Needs repair – acknowledgement)

2. Same error. The learner gives uptake upon receiving feedback, but repeats the same error in his/her turn.

(14) (Nov. 23 – T3)

S: Take one [kuri] (Error – phonological)
T: Take one what? (Feedback – clarification)
S: [kuri]. [kuri]. (Needs repair – same error)

3. Different error. The learner does not correct nor repeat the error after the feedback, and makes a different error.

(15) (Nov. 13 – T3)

S1: Take it from [poket] (Error – phonological)
T: Pocket? (Feedback – repetition)
S1: Not pocket, uh, [bok] (Needs repair – different error)
S2: bottom.
S1: Yeah bottom.

4. Off target. The learner responds to teacher feedback, but not to the targeted form in the feedback.

(16) (Oct. 30 – T3)

S: Many shops are downtown. (Error – grammatical)
T: Sorry? (Feedback – clarification)
S: Downtown, many shops and places everywhere, a lot of people (Needs repair – off target)

5. Partial repair. This refers to uptake that includes a correction of only part of the initial error.

(17) (Nov. 4 – T2)

S: When I don't understand what garden [kuden] is in Japan, (Error – phonological)
T: [kuden]? (Feedback – repetition)
S: [guden]? (Needs repair – partial repair)

RESULTS

Before describing the results, it should be clarified that the total number of errors was not counted, nor the total number of turns made by students or teachers, as Lyster and Ranta (1997) did in their study. It was considered that the total number of errors or turns had little relevance to the target of investigation in this present study, for its overall purpose was, as the research questions stated, to observe the kinds of corrective feedback and uptake and to display the distribution of occurrence thereof. Since the research questions do not address the issue of correlative facts between the total number of errors and the kinds of errors responded to by teacher feedback, or between the total number of teacher turns and turns with feedback, the percentage of the total numbers was not given in the results.

On the other hand, this study did examine the kinds of error that precede corrective feedback, an issue not discussed by Lyster and Ranta (1997). In order to observe the relationship between feedback and uptake, it was worth revealing the kinds of errors that induced teacher feedback. Indeed, later, Lyster (1998a) pointed out the importance of identifying the error types

and conducted thorough analyses of the relationship between error types and the kinds of corrective feedback. The present study accordingly incorporated the analyses of error types.

Table 3 shows the breakdown of the kinds of errors treated with feedback.

TABLE 3
Distribution of Errors Responded with Teacher Feedback

	T1	T2	T3	Total
Phonological	10 (48%)	12 (57%)	29 (54%)	51 (53%)
Grammatical	7 (33%)	5 (24%)	10 (19%)	22 (23%)
Lexical	4 (19%)	4 (19%)	15 (27%)	23 (24%)
Total	21 (100%)	21 (100%)	54 (100%)	96 (100%)

As for error types, it should be noted that all three teachers provided corrective feedback to phonological errors with the highest rate of other error types. Of T1's corrective feedback, 48% was feedback on students' phonological errors, 33% on their grammatical errors, and 19% on lexical errors. T2's corrective feedback was observed to be 57% on students' phonological errors, 24% on their grammatical errors, and 19% on their lexical errors. T3's corrective feedback was given the most on phonological errors with 54%, followed by lexical errors with 27%, and grammatical errors with 19%. These results are interestingly different from Lyster (1998a) whose database is the same as that for Lyster and Ranta (1997). In Lyster (1998a), the error type that led to corrective feedback the most was grammatical errors, followed by lexical errors, and then phonological errors. It is supposed that the difference can be attributed to the instructional setting: it was French immersion in Lyster's study, but adult ESL classrooms in the current study. The participants for Lyster's study were French immersion students in grades 4 and 5. It is a well-known fact that young learners have a better chance to acquire L2 phonology. Thus, it could be assumed that Lyster's subjects had fewer phonological errors than the adult participants of the current study, whose ages ranged from 20s to 50s.

Table 4a shows the distribution of corrective feedback by each teacher. We can observe what kinds of corrective feedback were used when students' errors were pointed out. For comparison, the distribution of corrective feedback in Lyster and Ranta (1997) is displayed in Table 4b.

TABLE 4a
Distribution of Corrective Feedback for the Current Study

Corrective feedback type	T1	T2	T3	Total
Recasts	15 (58%)	17 (55%)	45 (64%)	77 (60%)
Clarification request	8 (30%)	10(33%)	20(28%)	38(30%)
Elicitation	1 (4%)	1 (3%)	4 (6%)	6 (5%)
Repetition	0 (0%)	1 (3%)	2 (3%)	3 (2%)
Explicit correction	1 (4%)	1 (3%)	1 (1%)	3 (2%)
Metalinguistic feedback	1 (4%)	1 (3%)	0 (0%)	2 (1%)
Total	26 (100%)	31 (100%)	72 (100%)	129 (100%)

TABLE 4b
Distribution of Corrective Feedback for Lyster and Ranta (1997)

Corrective feedback type	
Recasts	375 (55%)
Clarification request	73(11%)
Elicitation	94(14%)
Repetition	36(5%)
Explicit correction	50 (7%)
Metalinguistic feedback	58 (8%)
Total	686 (100%)

Overall, as well as individually, recasts were used the most (Overall-60%, T1-58%, T2-55%, T3-64%). However, the order of frequency of the rest of the corrective feedback types was different from that of Lyster and Ranta (1997). In the current study, the second most used feedback was clarification requests (30%) and the third most was elicitation (5%), but this order was reversed in Lyster and Ranta. The fourth through the sixth were metalinguistic feedback, explicit correction, and repetition in Lyster and Ranta’s study, whereas they were repetition (2%), explicit correction (2%), and metalinguistic feedback (1%) in the current study. Although the order was not exactly the same, the results of the current study showed lower percentages for repetition, explicit correction, and metalinguistic feedback than others, as those of Lyster and Ranta did. Another finding worth pointing out is the relatively high percentage of clarification requests among the all three teachers in the current study. In the results of Lyster and Ranta’s study, the percentage for clarification requests was somewhere between 6% and 15% among the teachers, whereas it was between 28% and 32% in the current study.

Table 5 displays the distribution of uptake. This analysis considers all the instances that were given corrective feedback.

TABLE 5
Distribution of Uptake by Teacher

Learner uptake type	T1 classroom	T2 classroom	T3 classroom	Total
Repair	14 (54%)	14 (44%)	45 (61%)	73 (55%)
Needs-repair	9 (35%)	17 (53%)	29 (39%)	55 (42%)
No uptake	3 (11%)	1 (3%)	0 (0%)	4 (3%)
Total	26 (100%)	32 (100%)	74 (100%)	132 (100%)

What should be noted first was that there was so little no uptake in the data of the current study. In Lyster and Ranta (1997), almost half of the feedback did not lead to uptake, but in the current study, only 3% of the whole uptake instances resulted in no uptake. This could mean that teachers’ feedback was largely recognized as corrective feedback, and that the students showed the attempt to respond to it 97% of the time.

Table 6a displays the relationship between error types and corrective feedback types for three classes. For comparison, the distribution of feedback types from Lyster and Ranta's (1997) study is also shown in Table 6b.

TABLE 6a
Relationship between Error Types and Corrective Feedback Types

Corrective feedback type	Errors responded with feedback			Total
	Phonological	Grammatical	Lexical	
Recasts	41 (58%)	15 (57%)	16 (57%)	72 (58%)
Clarification request	22 (31%)	6 (23%)	11 (39%)	39 (31%)
Elicitation	3 (4%)	2 (8%)	1 (4%)	6 (5%)
Repetition	3 (4%)	0 (0%)	0 (0%)	3 (2%)
Explicit correction	2 (3%)	1 (4%)	0 (0%)	3 (2%)
Metalinguistic feedback	0 (0%)	2 (8%)	0 (0%)	2 (2%)
Total	71 (100%)	26 (100%)	28 (100%)	125 (100%)

TABLE 6b
Distribution of Feedback Types in Lyster and Ranta (1997)

Corrective feedback type	
Recasts	375 (55%)
Clarification request	73(11%)
Elicitation	94(14%)
Repetition	36(5%)
Explicit correction	50 (7%)
Metalinguistic feedback	58 (8%)
Total	686 (100%)

Table 6a illustrates which type of error led to which type of corrective feedback in the present study. Overall, all three error types led to recasts more than any other type of corrective feedback, and feedback types other than recasts and clarification requests accounted for a small percentage for all three error types. Especially for lexical errors, recasts and clarification requests were given as corrective feedback to as high as 96% of all lexical errors. Repetition, explicit correction, and metalinguistic feedback never occurred as corrective feedback to lexical errors. This extreme case contrasts with the overall results of the relationship between corrective feedback types and uptake types in Lyster and Ranta (1997), where the results were more spread out, with the most used corrective feedback being recasts (55%) and the least being repetition (5%). The results of the current study show a high rate for recasts and for clarification requests, altogether counting 89% of all feedback moves given to the error, and the rest of the feedback types counting 11%.

Table 7a shows the distribution of uptake in relation to corrective feedback types. Table 7b provides comparative results found in Lyster and Ranta (1997).

TABLE 7a
Distribution of Uptake in Relation to Corrective Feedback Types

Learner uptake type	Corrective feedback type						Total
	Recasts	Clarification	Elicitation	Repetition	Explicit correction	Metaling. feedback	
Repair	46 (65%)	15 (37%)	1 (17%)	2 (40%)	3 (100%)	1 (50%)	68 (54%)
Needs-repair	20 (29%)	26 (63%)	5 (83%)	3 (60%)	0 (0%)	1 (50%)	55 (43%)
No uptake	4 (6%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	4 (3%)
Total	70 (100%)	41 (100%)	6 (100%)	5 (100%)	3 (100%)	2 (100%)	127 (100%)

TABLE 7b
Uptake Following Corrective Feedback in Lyster and Ranta (1997)

Learner uptake type	Corrective feedback type						Total
	Recasts	Clarification	Elicitation	Repetition	Explicit correction	Metaling. feedback	
Repair	66 (18%)	20 (28%)	43 (46%)	11 (31%)	18 (36%)	26 (45%)	184 (27%)
Needs-repair	49 (13%)	44 (60%)	51 (54%)	17 (47%)	7 (14%)	24 (41%)	192 (28%)
No uptake	260 (69%)	9 (12%)	0 (0%)	8 (22%)	25 (50%)	8 (14%)	310 (45%)
Total	375 (100%)	73 (100%)	94 (100%)	36 (100%)	50 (100%)	58 (100%)	686 (100%)

What should be noted in Table 7a is that there was only 4% of no uptake in all the responses to corrective feedback. This means that the students did react to corrective feedback in some way, whether or not in a repaired form or not. This was very different from Lyster and Ranta's (1997) study. In the results of their study, the subjects did not respond to 69% of recasts and 50% of explicit correction, and there were cases of no uptake for other corrective feedback types such as repetition (22%), metalinguistic feedback (14%), and clarification requests (12%). Another difference between the results of the current study and those of Lyster and Ranta was the ratio of repair and needs-repair. In the current study, there were more uptake moves with repair (54%) than those still in need of repair (43%), whereas the percentage for needs-repair (28%) was slightly more than that for repair (27%). Specifically, recasts in the current study led to much more repair (66%) than those in Lyster and Ranta (18%).

DISCUSSION

The present study aimed to investigate the relationship among learner errors, corrective feedback, and uptake, by identifying the types thereof and by observing the distribution of their occurrences in teacher-student interaction. The forgoing results permit the following answers to the three research questions.

In answering the first research question (what types of learner errors lead to what types of corrective feedback?), the findings suggested that all linguistic errors, that is, phonological errors, grammatical errors, and lexical errors, invited recasts more than any other type of corrective feedback, and that all three types of learner errors have clarification requests as the second highly

invited corrective feedback. There were types of corrective feedback that did not follow certain error types. That is, phonological errors led to no metalinguistic feedback; grammatical errors lead to no repetition; and no lexical errors were followed by repetition, explicit correction, and metalinguistic feedback.

In answering the second research question (what types of corrective feedback can be observed in adult ESL classrooms, and what is the distribution of the types of corrective feedback?), the study found that the three teachers in the current study used six different corrective feedback moves: recasts (60%), clarification requests (30%), elicitation (5%), repetition (2%), explicit correction (2%), and metalinguistic feedback (1%). There was no major difference in the ratio of occurrence of the corrective feedback types among the three teachers.

In answering the third research question (what is the distribution of uptake following different types of corrective feedback?), the study found that recasts were the only type of corrective feedback that led to no uptake (6%), and the recasts that resulted in no uptake were preceded by two grammatical errors, one phonological error, and one lexical error. All the other corrective feedback types led to uptake. The type of corrective feedback that led to repair the most was explicit correction (100%) with recasts (66%) being the second most used feedback that resulted in repair. The corrective feedback type that most often led to needs repair was elicitation (83%), followed by clarification requests (63%), and repetition (60%).

There are many differences between the results found in the current study and those in Lyster and Ranta's (1997) study. One of the possible explanations for the differences is the classroom setting. Lyster and Ranta's subjects were in immersion classes, where students learned general subjects in the target language as well as the language itself. Compared with an ESL classroom setting where the main purpose is to improve students' use of English, immersion classrooms focus on learning general knowledge as well as the French language. When learning general knowledge, the class should be focusing on content, rather than the accurate or fluent use of French. This might account for the fact that there were instances in Lyster and Ranta's database where the immersion students did not respond to some corrective feedback moves as much as the ESL students in the current study did. In ESL classroom settings, students often come to class with the purpose of improving their use of English and they are aware that they make errors in their production in English. Casual interviews with the students in the present study revealed that most of them were willing to be corrected by teachers. This means that the students were more tuned in to their errors and the correction of those errors, and thus they were more responsive to teacher feedback than the French immersion students.

Another major difference regarding the subjects is their ages. In Lyster and Ranta (1997), the subjects were in grades four to six, ranging from ages 10 to 12. On the other hand, the current study looked at adult ESL students, whose ages ranged from 20s to 50s. It is a known fact, as Lyster (1998a) also concluded in his descriptive study, that young learners of a second language are less sensitive to linguistic forms when they learn the second language. That is, young learners might not notice the purpose of teacher feedback when it is targeting a minor linguistic error, which might not impede communication. This might explain the fact that there was more uptake to corrective feedback on specific linguistic errors in adult ESL learners than students in the grades four to six.

Similarly, it could be surmised that the motivation for learning the target language might be higher for the adult ESL students than for the young immersion program students. The difference in the degree of learners' motivation could be attributed to the nature of the language learning programs. The immersion program seems to be part of the mandatory curriculum for

grade students, and therefore it might not be always their own choice to join the immersion program. On the other hand, the adult ESL students in the current study had a variety of reasons for joining the ESL course, and ESL classes such as the one in this study are not necessarily a mandatory part of the students' education. Some of the students needed better English skills to enter U.S. colleges or to work, while others joined to brush up their English skills in order to feel more comfortable with the language. As mentioned in the discussion of classroom settings, they were motivated to be corrected because the students believed that it was a way to improve their English. The large percentage of overall uptake might be a manifestation of their motivation to improve their English.

Another major difference between the current study and Lyster and Ranta (1997) is the target language in the classrooms. One might wonder if the different results between the two studies are due to the target language in the classrooms. To examine if the results of the current study would still show differences if compared with a classroom observational study whose target language is also English, Panova and Lyster's (2002) study is noteworthy. Panova and Lyster investigated adult ESL students in Canada. The students' goal of coming to the ESL program was primarily to pursue studies in higher educational institutions. Like most of the other ESL programs in North America, the ESL program offered classes covering speaking, listening, reading, and writing, with a special focus on vocabulary development. The students were at the early intermediate level. The classroom descriptions of Panova and Lyster are similar to those of the current study, but the results on uptake showed differences. In Panova and Lyster's study, less than half of the corrective feedback resulted in learner uptake, whereas 97% of corrective feedback led to uptake in the current study. This difference might be accounted for by the difference in the composition of the classroom. In Panova and Lyster's study, the students were predominantly French L1 speakers, whereas the participants in this study come from different L1 backgrounds. Also, the teacher in their study was a French/English bilingual. The surprisingly high rate of uptake in the present study could be attributed to the fact that there was no opportunity to rely on the students' L1 in order to communicate with the teachers, in addition to the classroom language learning setting, where most of the classmates were motivated to improve their language skills.

Aside from the comparison with Lyster and Ranta's study, the characteristics of the three teachers in this study might be worth considering in relation to the way they gave feedback to their students. Overall, the results did not illustrate much difference in the distribution of feedback types among the three teachers. Two of the three teachers in the current study were non-native speakers of English, and they have had experience learning English as a second language. One might speculate that non-native English teachers would display a different style in giving corrective feedback, since they have gone through the phase of being corrected as second language learners. However, the results of the current study did not seem to speak to this speculation. Teachers' cultural background or language learning background did not seem to alter their ways of providing corrective feedback, nor did it seem to have affected the way their students responded to the teachers' feedback.

Overall, the different results seem to be also attributable to the different research settings, so it seems impossible to make any generalizing claim as to which corrective feedback is more likely to lead to repair. However, it can be pointed out that recasts are the most frequently used corrective feedback technique both in Lyster and Ranta's study and in the present study. As is found in the majority of classroom observation research, recasts seem to be the most frequently observed type of corrective feedback. With respect to the relationship between recasts and

subsequent uptake, it was observed in both the present study and Lyster and Ranta's study that there was a lower percentage of uptake following recasts than following other types of corrective feedback. However, the rate of repair following recasts was high in the present study (66%) compared to that in Lyster and Ranta's study (18%). While we can identify some similar findings from the current study and Lyster and Ranta's (1997), there were more findings in this study that seem to go against the widely recognized observation in past classroom interactional studies, such as the high rate for repair following recasts and overall learner uptake observed 97% of the time.

CONCLUSIONS

The present study was inspired by Lyster and Ranta's (1997) study, and it investigated the relationship between error types and corrective feedback, as well as the relationship between corrective feedback and uptake, in an adult ESL context. Although this study identified similarities and differences in comparison to Lyster and Ranta's study, it did not yield any generalizations about the patterns of error treatment sequences. As is clear from the studies reviewed, the patterns of corrective feedback and learner uptake vary depending on the instructional context. Specifically, variables such as students' age, L1 background, the purpose of learning the target language, and the goal of the class could all trigger different results from each classroom observation research. The present study indicates that very different results could be expected depending on the classroom and learners, and it seems to offer grounds for further research as to which variables lead to greater differences in results of occurrence of corrective feedback and learner uptake.

With regard to the limitations of the study, firstly, the small number of instances of coded feedback moves should be noted. There were some cases where it seemed too premature to claim that one type of corrective feedback has higher rate of occurrence than the other type. Specifically, there was a case where only one instance of explicit correction was observed over grammatical errors while there were two instances of metalinguistic feedback, but in percentage terms, the difference of occurrence frequency looked greater (4% for explicit correction and 8% for metalinguistic feedback). Secondly, the research results may have been more reliable if there had been a second reviewer. However, one was not available for this particular study due to limited resources. Thirdly, the study may have benefited if more introspective data from the teachers and students had been collected to further account for the variability in the results.

Nonetheless, the results of the current study were unique in some interesting aspects. In this particular ESL context, recasts were also effective in eliciting uptake, and learners responded to any corrective feedback as much as 97% of the time. Whether the rate of uptake correlates with second language learning still remains an empirical question. The study conducted by de Bot (1996) addresses the issue of the necessity of having learners produce correct forms after corrective feedback. De Bot claims that language learners are likely to benefit from being pushed to retrieve linguistic forms of the target language. In relation to de Bot's claim, Clark (1995) and Groszofsky, Payne, and Campbell (1994) argue that participants remember items that they have generated in response to some kind of cues better than the items that have just been presented to them. As these researchers reveal that learner response to corrective feedback seems helpful in language learning, the next phase of error treatment study should explore the relationship between learner uptake and its contribution to language development.

REFERENCES

- Allwright, D., & Bailey, K. (1991). *Focus on the language classroom*. Cambridge, UK: Cambridge University Press.
- Carroll, S., Roberge, Y., & Swain, M. (1992). The role of feedback in adult second language acquisition: Error correction and morphological generalizations. *Applied Psycholinguistics*, 13, 173-198.
- Carroll, S., & Swain, M. (1993). Explicit and implicit negative feedback: An empirical study of the learning of linguistic generalization. *Studies in Second Language Acquisition*, 15, 357-386.
- Chaudron, C. (1988). *Second language classrooms*. New York: Cambridge University Press.
- Clark, S. (1995). The generation effect and the modeling of associations in memory. *Memory and Cognition*, 23, 442-455.
- Crystal, D. (1991). *A dictionary of linguistics and phonetics*. Oxford: Blackwell.
- De Bot, K. (1996). The psycholinguistics of the output hypothesis. *Language Learning*, 46, 529-555.
- DeKeyser, R. (1993). The effect of error correction on L2 grammar knowledge and oral proficiency. *Modern Language Journal*, 77, 501-514.
- Doughty, C. (1994). Finetuning of feedback by competent speakers to language learners. In J. Alatis (Ed.), *Strategic interaction and language acquisition: Theory, practice, and research. GURT 1993* (pp. 96-108). Washington: Georgetown University Press.
- Groszofsky, A., Payne, D., & Campbell, K. (1994). Does the generation effect depend upon selective displaces rehearsal? *American Journal of Psychology*, 107, 53-68.
- Han, Z-H. (2002). A study of the impact of recasts on tense consistency in L2 output. *TESOL Quarterly*, 36, 543-572.
- Krashen, S. (1985). *The input hypothesis: Issues and implications*. Beverly Hills, CA: Laredo.
- Logan, G. (1988). Towards an instance theory of automatization. *Psychological Review*, 95, 492-527.
- Long, M. H. (1983). Native speaker/non-native speaker conversation and the negotiation of comprehensible input. *Applied Linguistics*, 4, 126-141.
- Long, M. H. (1985). Input and second language acquisition theory. In S. Gass & C. Madden (Eds.), *Input in second language acquisition* (pp. 377-393). Rowley, MA: Newbury House.
- Long, M. H. (1996). The role of the linguistic environment in second language acquisition. In W. C. Ritchie & T. K. Bhatia (Eds.), *Handbook of second language acquisition* (pp. 413-468). San Diego, CA: Academic Press.
- Lyster, R. (1994). La negociation de la forme: Strategie analytique en classe d'immersion. *The Canadian Modern Language Review*, 50, 447-465.
- Lyster, R. (1998a). Negotiation of form, recasts, and explicit correction in relation to error types and learner repair in immersion classrooms. *Language Learning*, 48, 183-218.
- Lyster, R. (1998b). Recasts, repetition, and ambiguity in L2 classroom discourse. *Studies in Second Language Acquisition*, 20, 51-81.
- Lyster, R. (1999). The negotiation of form: The following... but not the end. *The Canadian Modern Language Review*, 55, 355-384.

- Lyster, R., & Ranta, L. (1997). Corrective feedback and learner uptake: Negotiation of form in communicative classrooms. *Studies in Second Language Acquisition*, 19, 37-66.
- Mackey, A., Gass, S., & McDonough, K. (2000). How do learners perceive interactional feedback? *Studies in Second Language Acquisition*, 22, 471-497.
- Ohta, A. S. (2000). Rethinking recasts: A learner-centered examination of corrective feedback in the Japanese language classroom. In J. K. Hall & L. S. Verplaetse (Eds.), *Second and foreign language learning through classroom interaction* (pp. 47-71). Mahwah, NJ: Lawrence Erlbaum.
- Panova, I., & Lyster, R. (2002). Patterns of corrective feedback and uptake in an adult ESL classroom. *TESOL Quarterly*, 36, 573-595.
- Schmidt, R. (1990). The role of consciousness in second language learning. *Applied Linguistics*, 11, 129-158.
- Schmidt, R. (1995). Consciousness and foreign language learning: A tutorial on the role of attention and awareness in learning. In R. Schmidt (Ed.), *Attention and awareness in foreign language learning* (pp. 1-63). Honolulu: University of Hawai'i Press.
- Spada, N., & Lightbown, P.M. (1993). Instruction and the development of questions in L2 classrooms. *Studies in Second Language Acquisition*, 15, 205-224.
- Swain, M. (1985). Communicative competence: Some roles of comprehensible input and comprehensible output in its development. In S. Gass & C. Madden (Eds.), *Input in second language acquisition* (pp. 235-252). Rowley, MA: Newbury House.
- White, L. (1987). Against comprehensible input: The input hypothesis and the development of L2 competence. *Applied Linguistics*, 8, 95-110.
- White, L. (1989). *Universal Grammar and second language acquisition*. Amsterdam: Benjamins.
- White, L. (1991). Adverb placement in second language acquisition: Some effects of positive and negative evidence in the classroom. *Second Language Research*, 7, 133-161.
- White, L., Spada, N., Lightbown, P.M., & Ranta, L. (1991). Input enhancement and L2 question formation. *Applied Linguistics*, 12, 416-432.