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CORRECTIVE FEEDBACK AND LEARNER UPTAKE

Negotiation of Form in Communicative Classrooms

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This article presents a study of corrective feedback and learner uptake (i.e., responses to feedback) in four immersion classrooms at the primary level. Transcripts totaling 18.3 hours of classroom interaction taken from 14 subject-matter lessons and 13 French language arts lessons were analyzed using a model developed for the study and comprising the various moves in an error treatment sequence. Results include the frequency and distribution of the six different feedback types used by the four teachers, in addition to the frequency and distribution of different types of learner uptake following each feedback type. The findings indicate an overwhelming tendency for teachers to use recasts in spite of the latter's ineffectiveness at eliciting student-generated repair. Four other feedback types—elicitation, metalinguistic feedback, clarification requests, and repetition—lead to

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student-generated repair more successfully and are thus able to initiate what the authors characterize as the negotiation of form.

ERROR CORRECTION AND COMMUNICATIVE LANGUAGE TEACHING

The issue of how competent speakers react to learners' language errors takes on many guises depending on the disciplinary orientation of the researcher. It has been examined in terms of negative evidence by linguists (e.g., White, 1989), as repair by discourse analysts (e.g., Kasper, 1985), as negative feedback by psychologists (e.g., Annett, 1969), as corrective feedback by second language teachers (e.g., Fanselow, 1977), and as focus-on-form in more recent work in classroom second language acquisition (SLA) (e.g., Lightbown & Spada, 1990; Long, 1991). The different labels also reflect different research concerns and different approaches to data collection (Schachter, 1991). Small wonder then that the neophyte second language (L2) teacher finds so little in the research literature to help deal with the very practical issue of what to do when students make errors in classrooms that are intended to lead to communicative competence.

There are, however, a number of good state-of-the-art discussions of error treatment in classroom SLA (Allwright & Bailey, 1991; Chaudron, 1988; DeKeyser, 1993). These writers have all borrowed the framing questions used by Hendrickson (1978) in one of the first comprehensive reviews of the issue of error correction in the classroom; that is,

1. Should learners' errors be corrected?
2. When should learners' errors be corrected?
3. Which errors should be corrected?
4. How should errors be corrected?
5. Who should do the correcting?

Nearly 20 years later, we are hardly any closer to knowing the answers to these deceptively simple questions. Some of the questions have received more attention than others. For example, the issue of whether errors should be corrected at all has been investigated under the rubric of "focus-on-form" in classroom SLA. Typically such research has involved experimental designs with pre- and posttests and explicit teaching of a specific feature of the target language. Those studies conducted in intensive ESL classes in Quebec (Spada & Lightbown, 1993; White, 1991; White, Spada, Lightbown, & Ranta, 1991) have examined the effect of a combination of proactive and reactive approaches to focus-on-form, that is, both form-focused instructional materials and feedback on error, and thus shed no light on the effectiveness of error correction on its own. Other studies have dealt with feedback exclusively, using a highly controlled experimental approach. In Carroll, Roberge, and Swain (1992), adult subjects were trained and given feedback (or not) on two rules of suffixation in French, whereas Carroll and Swain (1993) investigated the effect of different types of feedback on the learning of the dative alternation rule in English,

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also by adults. It is difficult to know just what relevance the findings of these studies have for the treatment of learner errors during communicative interaction in school settings, particularly with younger learners.

One quasi-experimental study that examined the effect of error correction is that by DeKeyser (1993). The study involved two French as a second language high school classes in Belgium. The experimental treatments lasted a full school year. One teacher was asked to correct the students as frequently and as explicitly as possible during communicative activities, whereas the other was asked to avoid correction in such activities. No specific language forms were targeted. The teaching was observed periodically, and the analysis of the teachers' behavior confirmed that the treatments were being implemented as expected. To evaluate the effect of the error treatment, a variety of measures of L2 proficiency were administered at the beginning and at the end of the school year. In addition, measures of learner variables such as foreign language learning aptitude, extrinsic motivation, and French class anxiety were also collected. DeKeyser found that error correction did not have an overall effect on student proficiency in the L2 but that it did interact with learner variables. Thus, for example, learners with low extrinsic motivation did better on oral tasks after error correction whereas those with high extrinsic motivation did better on oral tasks without error correction. This study highlighted the fact that instructional treatments such as error correction may interact with learner characteristics and contextual features in complex ways.

In contrast to the experimental orientation of the studies that have examined the utility of error correction, the other questions posed by Hendrickson (concerning when, how, and which) have been addressed by observational studies of teachers in their own classrooms.[1] Thus, an early study by Fanselow (1977) involved the analysis of transcripts from 11 teachers who had been videotaped while teaching the same lesson. Fanselow concluded from this study that there was much ambiguity in the signals given by teachers. Another small-scale study was reported by Kasper (1985) in which comparisons were made between the types of repair sequences in the form-focused phase and the communication-focused phase of one English lesson in a Danish high school. Kasper found that the teacher's and students' repair behavior differed depending on the communicative focus of the lesson.

Of the larger scale investigations, Chaudron (1977, 1986, 1988) is of particular relevance to the present study. He observed three French immersion teachers (Grades 8 and 9) teaching both subject-matter and French language arts classes at two different times in the school year. From the analysis of the transcripts he devised an intricate model of the error correction process that allows comparisons to be made between types of teacher reaction to error moves and student correction moves. The focus of his study, however, was on the priorities of teachers in terms of the types of errors (morphological, syntactic, content, etc.) that they focused on and when they preferred to correct errors (during subject-matter or language arts lessons). These teachers expressed a preference for correcting L2 errors in the language arts class and tended to correct more errors earlier in the school year than later. Chaudron also examined the relationship between different types of teacher repetitions and the rate of correct student responses that followed the

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feedback. He found that students were more likely to produce a correct response when the teacher reduced the learner's utterance to isolate the error and added emphasis through a questioning tone or stress.

Hamayan and Tucker (1980) examined specific aspects of teacher input provided to French immersion and French first language (L1) classes at the Grade 3 and Grade 5 levels in the Montreal area. One part of the study focused on teaching strategies, including error correction practices. They found a significant difference between the L1 and L2 teachers' correcting behavior: The French immersion teachers tended to explicitly correct the L2 learners more in the earlier grade than in the later grade, but the reverse pattern was found with the native speaker classes where more correction took place in the higher grade.

Finally, in the context of adult French foreign language learning in Australia, Doughty (1994a) reported on a pilot study involving 6 hours of interaction in one class on three different occasions. She was interested in comparing L2 classroom learning to L1 acquisition in terms of the degree to which feedback is finely tuned. Student turns were coded for number of errors, and teacher turns were coded for the type of feedback (either clarification request, repetition, recast, expansion, or translation). The teacher provided feedback on 43% of the erroneous learner turns and tended to give feedback to learner turns that had only one error rather than those with many errors. The teacher also tended to repeat student utterances only when they were well formed. Doughty concluded, tentatively, that the feedback to L2 learners is predictable in the same way that the input for L1 learners is and that learners respond in a way that suggests that the information conveyed by the teacher is noticed. This result is in sharp contrast to Fanselow's findings and may highlight the expertise of this particular teacher and the expertise of these particular students rather than providing a generalization about L2 learning in the classroom.

This review of existing studies concerning error treatment in communicative language teaching provides a sketchy picture at best. Further research that examines relationships among different variables in a variety of teaching contexts is necessary. In this paper, we propose to respond to this need by reporting on a study whose purpose is twofold:

1. To develop an analytic model comprising the various moves in an error treatment sequence in L2 classrooms.
2. To apply the model to a database of interaction in four primary-level French immersion classrooms with a view to documenting the frequency and distribution of corrective feedback in relation to learner uptake, that is, student responses to corrective feedback.

BACKGROUND AND PURPOSE OF THE STUDY

It is not surprising that a number of the preceding studies have taken place in the context of immersion programs because they have been considered by many to exemplify an ideal approach to communicative language teaching. However, notwithstanding the considerable enthusiasm over the success of immersion, researchers have suggested that weaknesses in immersion students' grammatical and lexical development may reflect gaps in immersion pedagogy in the following ways:

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1. Comprehensible input alone is not sufficient for successful L2 learning; comprehensible output is also required, involving, on the one hand, ample opportunities for student output and, on the other, the provision of useful and consistent feedback from teachers and peers (Allen, Swain, Harley, & Cummins, 1990; Swain, 1985, 1988).
2. Subject-matter teaching does not on its own provide adequate language teaching; language used to convey subject matter needs to be highlighted in ways that make certain features more salient for L2 learners (Allen et al., 1990; Harley, 1993, 1994; Swain, 1985, 1988).

Both of these suggestions are relevant to the issue of error treatment in that, first, producing comprehensible output entails the provision of useful and consistent feedback from teachers and peers and, second, language features can be made more salient in the input during subject-matter lessons as teachers interact with students; that is, they can provide feedback to students that draws attention to relevant language forms during meaningful interaction. Yet the observation study of immersion classrooms described in Allen et al. (1990) revealed that error treatment was dealt with in "a confusing and unsystematic way" (p. 67). Only 19% of grammatical errors overall were corrected, and when correction did occur it generally appeared to be motivated by an "irritation" factor.The authors acknowledge a certain dilemma in this regard: If teachers do not correct errors, opportunities for students to make links between form and function are reduced; if teachers do correct errors, they risk interrupting the flow of communication.

However, Lyster (1993, 1994) described a Grade 8 immersion teacher, Serge, who provided feedback to students, without breaking the flow of communication, in ways that pushed them to be more accurate and precise in their output. For example, after Serge asked students to comment on differences between formal and informal letters in French, the following exchange took place:

St:	*La chose en bas.*	"The thing at the bottom."
Serge:	*La chose en bas!*	"The thing at the bottom!"
St:	*La salutation finale.*	"The final closing."

What is particularly interesting about this simple example is that the student already knew the more precise term but needed to be pushed to produce it. This example of negotiation in classroom discourse may be distinguished from negotiation as it has been conceptualized in the extensive body of research designed to examine interaction in adult native speaker and learner dyads (e.g., Brock, Crookes, Day, & Long, 1986; Chun, Day, Chenoweth, & Luppescu, 1982; Long & Porter, 1985; Pica, Holliday, Lewis, & Morgenthaler, 1989; Pica, Young, & Doughty, 1987; Varonis & Gass, 1985; see Pica, 1994, for a review of this research) and, more recently, in child native speaker and learner dyads (Oliver, 1995). Drawing on van Lier's (1988) terminological distinction between conversational and didactic repair, one may distinguish between two functions of negotiation, both of which have a role to play in L2 classrooms: a conversational function and a didactic function.[2] On the one hand, the conversational function involves the negotiation of meaning, which has been characterized as "exchanges between learners and their interlocutors as they

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attempt to resolve communication breakdowns and to work toward mutual comprehension" (Pica et al., 1989, p. 65). Indeed, this conversational function of negotiation, namely, the negotiation of meaning, has often been considered to be an essential feature of immersion pedagogy (e.g., Genesee, 1987; Met, 1994; Rebuffot, 1993; Tardif, 1991). On the other hand, the didactic function of negotiation involves what we consider to be the "negotiation of form," namely, the provision of corrective feedback that encourages self-repair involving accuracy and precision and not merely comprehensibility, which is in keeping with Swain's (1985) notion of comprehensible output. In the preceding example, there is no evidence of communication breakdown, and it appears unlikely that the teacher has misunderstood the student's intended meaning.[3]

The observation of Serge's negotiation techniques led to the creation of a large database as part of an ongoing program of research investigating ways in which L2 teachers integrate analytic language teaching, or focus-on-form, into communicatively oriented classrooms with a predominantly experiential orientation (for a discussion of the analytic-experiential dimension in L2 teaching, see, e.g., Harley, 1993; Lyster, 1990; Stern, 1990, 1992). In the present study, we are concerned with corrective feedback as an analytic teaching strategy. We report on the types and distribution of corrective feedback moves and their relationship to learner uptake. In so doing, our aim is to determine, first, whether error treatment is indeed "negotiable" and, if so, to what extent such pedagogically motivated negotiation (i.e., of form) occurs in communicative classrooms and, finally, what moves constitute such an exchange. Thus, our three research questions are the following:

1. What are the different types of corrective feedback and their distribution in communicatively oriented classrooms?
2. What is the distribution of uptake following different types of corrective feedback?
3. What combinations of corrective feedback and learner uptake constitute the negotiation of form?

DATABASE

The data presented here derive from an observational study of six French immersion classrooms in the Montreal area. This observational study has yielded 100 hours of audio-recordings of a variety of lessons in four Grade 4 classrooms (including one "split" Grade 4 and 5 class) and two Grade 6 classrooms across two different school boards: School Board A, which has an early total immersion program where the students' school day, since Grade 1, has been entirely in French except for about 1 hour of English, and School Board B, which has a middle immersion program beginning in Grade 4. Prior to Grade 4, the students' school day in School Board B was in English except for a 1-hour French lesson. In Grade 4 (and 5), the students' day is about 60% in French (including science, social studies, math, and French language arts) and 40% in English (physical education, moral education, music, and English language arts).

The audio-recordings were produced in stereo by using a mixer to which were connected two or three PZM microphones that had been strategically placed around

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the classroom to capture primarily student utterances on one track. Also connected to the mixer was the transmitter for one wireless microphone that had been attached to the teacher's clothing to clearly capture his or her voice on the other track. The recordings were transcribed by a native or nativelike speaker of French, using a stereo Marantz playback unit. All transcripts were then verified at least once by a second transcriber who was again either a native or nativelike speaker of French.

For the purposes of this report, only one grade level was analyzed. We selected transcripts from the three Grade 4 classes and the split Grade 4 and 5 class. Lessons that were selected for analysis excluded formal grammar lessons because our primary research question involved a description of how teachers and students engage in error treatment during communicative interaction, namely, during subject-matter lessons and during French language arts lessons with a thematic focus. The database analyzed for the present study includes 27 lessons totaling 1,100 minutes, or 18.3 hours. There are 13 French language arts lessons (7.8 hours) and 14 subject-matter lessons (10.5 hours) including lessons from science, social studies, and math. The breakdown of the 27 lessons across the four teachers, including the date, duration, and topic of each lesson, is presented in Appendix A.

Teacher 3 (T3)[4] is a female francophone who has taught for 21 years including 14 at the secondary level teaching French L1 and 7 in French immersion at the elementary level. She is the only teacher in the present study's database who teaches in School Board A. Students in this early total immersion program come from a variety of language backgrounds. Of T3's 30 students, 6 speak French at home. Teachers 4, 5, and 6 (T4, T5, and T6) teach in School Board B's middle immersion program where the students come primarily from English-speaking homes. T4 is a female English and French bilingual with 15 years of teaching experience. Her class of 26 students includes 10 in Grade 4 and 16 in Grade 5. T5 is a female francophone with 8 years of teaching experience, including 2 years in French L1 and 6 years in immersion. She has a class of 24 students. Finally, T6 is a male English and French bilingual who has taught for 5 years in School Board B, including 2 years in English and 3 years in immersion. He also has a class of 24 students.

These four teachers were selected on the basis of their willingness to have their lessons observed and tape-recorded. They had been recommended by the language consultants in each school board in response to our request to observe and record classrooms with a fair amount of interaction. Thus, although the teachers knew that we were interested in recording classroom interaction, they were unaware of our research focus related to corrective feedback. The teachers continued with their regular program while recordings were being made and while one or more observers coded classroom activities using Part A of the Communicative Orientation to Language Teaching (COLT) coding scheme (Spada & Fröhlich, 1995), which we had adapted for use in immersion classrooms. Because we were interested in analyzing teacher behavior in this first phase of a larger program of research, we focused exclusively in our analyses on teacher–student interaction. Even when students were involved in group work, we were still able to capture teacher–student interaction as the teacher, wearing the wireless microphone, went from group to group interacting with students.

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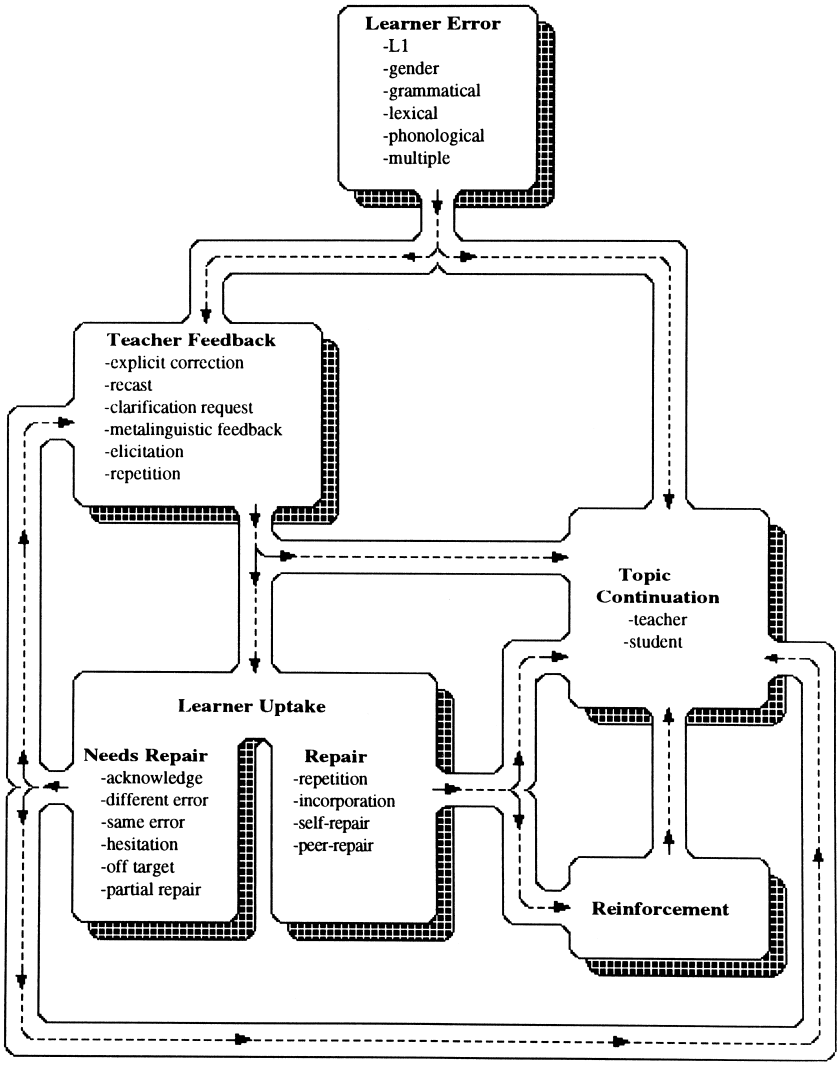


Figure 1. Error treatment sequence.

DATA ANALYSIS

To develop the coding categories in our model, we began by combining certain categories from the COLT Part B coding scheme (Spada & Fröhlich, 1995) with certain categories from Doughty's (1994a, 1994b) analysis of fine-tuning feedback. As we adjusted these categories to fit our data, other categories were developed and the error treatment sequence emerged as the model presented in Figure 1. The components of the model are thus empirically supported by the database described in the previous section. The model is to be read as a flowchart presenting a series

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of either/or options that together constitute an error treatment sequence. This error treatment sequence constitutes the main unit of analysis in the present study.

The sequence begins with a learner's utterance containing at least one error. The erroneous utterance is followed either by the teacher's corrective feedback or not; if not, then there is topic continuation. If corrective feedback is provided by the teacher, then it is either followed by uptake on the part of the student or not (no uptake entails topic continuation). If there is uptake, then the student's initially erroneous utterance is either repaired or continues to need repair in some way. If the utterance needs repair, then corrective feedback may again be provided by the teacher; if no further feedback is provided, then there is topic continuation. If and when there is repair, then it is followed either by topic continuation or by some repair-related reinforcement provided by the teacher. Following the reinforcement, there is topic continuation.

Error treatment sequences were identified in the transcripts and coded according to the preceding model by two researchers who consulted, if necessary, with a third researcher until agreement was reached. Following Doughty (1994a, 1994b), the transcripts were then imported into COALA (Computer Aided Linguistic Analysis, Thornton & Pienemann, 1994), which allowed for the final coding and quantification of the data using our user-defined coding categories, a detailed description of which now follows. English translations of the 18 sequences we have extracted from the database to illustrate our coding categories appear in Appendix B.

Error

All student turns were coded as either having an error or not. In counting student turns without error, we excluded short turns with little or no potential for error such as *oui, non, mais, pourquoi,* forms of address (*Madame, Monsieur*), and names of people, in addition to hesitations and false starts. However, we included other short utterances when there was potential for error, as in the following example:

(1) (T3—Social Studies—Jan. 30)[5]
T3*:* *Je viens de descendances françaises. Et la France se trouve où?*
St: *En Europe.* [Error-none]
T3*:* *Ah! En Europe. Donc moi je serais une . . . ?*
St: *Européenne.* [Error-none]

We also excluded student turns without apparent prominence in the recorded interactions.[6]

Ill-formed utterances were classified as having either one or more than one error. Errors were classified as either phonological, lexical, or grammatical (a separate category for errors in grammatical gender was included because of their frequency). We also included instances of the L1 unsolicited by the teacher in our category of error. Such uses of the L1 are not errors per se, but we were interested in examining teachers' reactions to their students' unsolicited use of the L1. When more than one type of error occurred in a student turn (e.g., phonological + L1), these were coded as "multiple."

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Errors generally included nonnative-like uses of French, although we also took into account utterances that could be considered nativelike for young children, but that were reacted to by teachers who considered them to be substandard in some way (e.g., lexically imprecise or sociolinguistically inappropriate). We did not include errors in content such as the following:

(2) (T5—Social Studies—Apr. 11)
T5: *[. . .] Le premier chocolat, le premier biscuit à la guimauve, enrobé de chocolat, il a été inventé quand? Oui?*
St: *En mille neuf cent soixante-sept.* [Error-none]
T5: *Non, c'était pas en mille neuf cent soixante-sept.*

However, if the error clearly revealed a nonnative-like use of a lexical item as in the example

(3) (T6—Language Arts—Apr. 10)
T6: *Qu'est-ce que tu fais le dimanche de Pâques? Est-ce que tu manges des bonbons?*
St: *Du chocolat.*
T6: *Qu'est-ce tu fais?*
Stsame: *Je mange des Pâques.* [Error-lexical]
T6: *Tu manges le Pa . . . , les Pâques, les Pâques? Qu'est-ce que ça veut dire "manger"?*

then we considered this to be a language learner error and not simply an error in content.

Feedback

We distinguished six different types of feedback used by the four teachers in this study.

1. *Explicit correction* 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 (e.g., "Oh, you mean," "You should say").

(4) (T4—Science—Mar. 17)
St: *Démarche: Nous coupons les pailles en six différents grosseurs et attache les pailles avec le ruban gommé.* [Error-multiple]
T4: *Euh, David, excuse-moi. Je veux que tu te serves du mot "longueur." Vous avez coupé les pailles en différentes longueurs. Pas grosseurs.* [FB-explicit]
(5) (T6—Science—Apr. 27)
St: *La note pour le* shot. [Error-L1]
T6: *Oh, pour la, oh, pour ça. Tu veux dire pour la piqûre. Piqûre. Oui?* [FB-explicit]

2. *Recasts* involve the teacher's reformulation of all or part of a student's utterance, minus the error. Following Doughty (1994a, 1994b), we have adopted this widely used term from the L1 acquisition literature. Spada and Fröhlich (1995) refer to such reformulations as "paraphrase" in the COLT scheme; Chaudron (1977)

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included such moves in the categories of "repetition with change" and "repetition with change and emphasis."

Recasts are generally implicit in that they are not introduced by phrases such as "You mean," "Use this word," and "You should say." However, some recasts are more salient than others in that they may focus on one word only, whereas others incorporate the grammatical or lexical modification into a sustained piece of discourse. Recasts also include translations in response to a student's use of the L1. In our initial analysis (Lyster & Ranta, 1995) we included translation as a separate type of feedback but then combined this category with recasts for two reasons: First, translation occurred infrequently and, second, when it did occur, translation clearly served the same function as a recast.

(6) (T6—Language Arts—Apr. 3)
St: *L'eau érable?* [Error-grammatical]
T6: *L'eau d'érable.* [FB-recast] *C'est bien.*
(7) (T4—Science—Mar. 17)
St: *Parce que il veut juste lui pour être chaud.* [Error-grammatical]
T4: *Oh. Quelqu'un qui veut juste avoir la chaleur pour lui-même.* [FB-recast]

3. *Clarification requests,* according to Spada and Fröhlich (1995, p. 25), indicate to students either that their utterance has been misunderstood by the teacher or that the utterance is ill-formed in some way and that a repetition or a reformulation is required. This is a feedback type that can refer to problems in either comprehensibility or accuracy, or both. We have coded feedback as clarification requests only when these moves follow a student error. A clarification request includes phrases such as "Pardon me" and, in French, "Hein?" It may also include a repetition of the error as in "What do you mean by *X*?"

(8) (T6—Language Arts—Apr. 3)
St: *Est-ce que, est-ce que je peux fait une carte sur le . . . pour mon petit frère sur le* computer*?* [Error-multiple]
T6: *Pardon?* [FB-clarification]

4. *Metalinguistic feedback* contains either comments, information, or questions related to the well-formedness of the student's utterance, without explicitly providing the correct form. Metalinguistic comments generally indicate that there is an error somewhere (e.g., "Il y a une erreur," "Can you find your error?," "Ça se dit pas en français," "Non, pas ça," "No, not X," or even just "No."). Metalinguistic information generally provides either some grammatical metalanguage that refers to the nature of the error (e.g., "It's masculine") or a word definition in the case of lexical errors. Metalinguistic questions also point to the nature of the error but attempt to elicit the information from the student (e.g., "Is it feminine?").

(9) (T5—Science—Mar. 28)
St: *Euhm, le, le éléphant. Le éléphant gronde.* [Error-multiple]
T5: *Est-ce qu'on dit le éléphant?* [FB-metalinguistic]

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5. *Elicitation* refers to at least three techniques that teachers use to directly elicit the correct form from the student. First, teachers elicit completion of their own utterance by strategically pausing to allow students to "fill in the blank" as it were (e.g., "C'est un . . . "). Such "elicit completion" moves may be preceded by some metalinguistic comment such as "No, not that. It's a . . . " or by a repetition of the error as in the following example:

(10) (T5—Science—Mar. 28)
St: *Le chien peut court.* [Error-grammatical]
T5: *Le chien peut court? Le chien peut . . .* [FB-elicitation]

Second, teachers use questions to elicit correct forms (e.g., "Comment on dit ça?," "Comment ça s'appelle?," "How do we say *X* in French?"). Such questions exclude the use of yes/no questions: A question such as "Do we say that in French?" is metalinguistic feedback, not elicitation. Third, teachers occasionally ask students to reformulate their utterance.

6. *Repetition* 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.

(11) (T3—Science—Jan. 16)
St: *Le . . . le girafe?* [Error-gender]
T3: *Le girafe?* [FB-repetition]

In addition to the preceding six feedback types, we initially included in our analysis a seventh category called *multiple feedback,* which referred to combinations of more than one type of feedback in one teacher turn. Our analysis of preliminary data presented in Lyster and Ranta (1995) revealed that a small number of teacher feedback turns (almost 15%) involved multiple feedback. Because this category revealed little information as to the nature of the combinations, we became interested in examining the various combinations to determine (a) whether certain combinations tended to occur more than others and (b) whether one particular type of feedback tended to override others in terms of illocutionary force.

Repetition clearly occurred with all other feedback types with the exception of recasts: in clarification requests ("What do you mean by *X?*"), in metalinguistic feedback ("No, not *X.* We don't say *X* in French."), in elicitation ("How do we say *X* in French?"), and in explicit correction ("We don't say *X* in French; we say *Y*."). Because repetition was common to these combined feedback moves, it was the clarification request, metalinguistic feedback, elicitation, and explicit correction that distinguished them, not the repetition. We thus coded these as instances of clarification request, metalinguistic feedback, elicitation, and explicit correction, respectively. Feedback coded as repetition, then, involves the teacher's repetition, in isolation, of the student's error.

Another combination that occurred was recast and metalinguistic feedback. It soon became evident, however, that such a combination was not "multiple" and necessitated instead the creation of the category "explicit correction." That is, as

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soon as the teacher's provision of the correct form is somehow framed metalinguistically, then the characteristics of a recast, along with its condition of implicitness, no longer apply. Similarly, when elicitation accompanied either a recast or an explicit correction as in Extract 12, this was coded as "explicit correction" in order to consistently capture in the coding instances where correct forms were explicitly provided:

(12) (T3—Language Arts—Jan. 16)
St: *Appelez la météorologue.* [Error-phonological]
T3: *Non. Reprends-toi. Mé-té-o-ro-logue. Dis-le.* [FB-explicit]

Finally, there were a few instances of elicitation occurring with metalinguistic feedback, as in the following example:

(13) (T5—Science—Mar. 28)
St: *Il habiter.* [Error-grammatical]
T5: *Pas il habiter, il . . .* [FB-elicitation]

This was coded as "elicitation" because the elicitation technique prevails in terms of illocutionary force in that uptake is clearly expected.

Uptake

We have drawn on speech act theory to introduce the notion of uptake (Austin, 1962, p. 117; see also Levinson, 1983; Mey, 1993) into the error treatment sequence. Whereas uptake has been defined in other work as "what learners claim to have learned from a particular lesson" (Slimani, 1992; see also Allwright, 1984), we are using the term in a very different sense. Uptake in our model refers to 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 (this overall intention is clear to the student although the teacher's specific linguistic focus may not be). A description of uptake, then, reveals what the student attempts to do with the teacher's feedback. If there is no uptake, then there is topic continuation, which is initiated by either the same or another student (in both cases, the teacher's intention goes unheeded) or by the teacher (in which case the teacher has not provided an opportunity for uptake). There are two types of student uptake: (a) uptake that results in "repair" of the error on which the feedback focused and (b) uptake that results in an utterance that still needs repair (coded as "needs-repair").

Repair in our model refers to the correct reformulation of an error as uttered in a single student turn and not to the sequence of turns resulting in the correct reformulation; nor does it refer to self-initiated repair. We did not analyze unprompted self-corrections. Instead, we analyzed repairs occurring only after prompting—what Schegloff, Jefferson, and Sacks (1977) have called "other-initiated repair." We distinguished four types of other-initiated repair in our database.

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1. *Repetition* refers to a student's repetition of the teacher's feedback when the latter includes the correct form.

(14) (T4—Science—Mar. 17)
St: *Là, je veux, là je vas le faire à pied.* [Error-lexical][7]
T4: . . . *avec mon pied.* [FB-recast]
St: . . . *avec mon pied.* [Repair-repetition]

2. *Incorporation* refers 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.

(15) (T3—Language Arts—Mar. 20)
St: *Mais, mais, elle nous a appellés le matin pis uhm dimanche Diana et son frère ils ont venu chez moi.* [Error-grammatical]
T3: *Sont venus.* [FB-recast]
St: *Sont venus chez moi pour jouer.* [Repair-incorporation]

3. *Self-repair* 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.

(16) (T3—Science—Jan. 16)
St: *La marmotte c'est pas celui en haut?* [Error-gender]
T3: *Pardon?* [FB-clarification]
St: *La marmotte c'est pas celle en haut?* [Repair-self]

4. *Peer-repair* refers to peer-correction provided by a student, other than the one who made the initial error, in response to the teacher's feedback.

(17) (T5—Science—Apr. 4)
St: *J'ai apporté du* pita bread. *Le pita, c'est le même chose.* [Error-multiple]
T5: *Oké, mais* pita bread, *comment tu pourrais dire ça tu penses?* [FB-elicitation]
Stdif: *Le pain pita.* [Repair-peer]

The category of "needs-repair" includes the following six types of utterances.

1. *Acknowledgment* generally refers to a simple "yes" on the part of the student in response to the teacher's feedback, as if to say, "Yes, that is indeed what I meant to say (but you've just said it much better!") (see Calvé, 1992). Acknowledgment may also include a "yes" or "no" on the part of the student in response to the teacher's metalinguistic feedback.

2. *Same error* refers to uptake that includes a repetition of the student's initial error.

3. *Different error* refers to a student's uptake that is in response to the teacher's feedback but that neither corrects nor repeats the initial error; instead, a different error is made.

4. *Off target* refers to uptake that is clearly in response to the teacher's feedback

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turn but that circumvents the teacher's linguistic focus altogether, without including any further errors.

5. *Hesitation* refers to a student's hesitation in response to the teacher's feedback.

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

The needs-repair category is one that can lead to additional feedback from the teacher and thus allows for error treatment sequences to go beyond the third turn:

(18) (T3—Language Arts—Mar. 6)

St: *J'ai de la difficulté à . . . comment expliquer que em . . . pour lui qui . . . qui nous envoie une lettre dans le futur.* [Error-lexical]
T3: *Je ne comprends pas.* [FB-clarification]
Sts: *Moi non plus.*
Stsame: *J'ai de la difficulté à . . . à formuler une phrase pour dire em . . . pouvez-vous renvoyer une lettre de ré . . . une lettre de retour.* [Needs-different]
T3: *Une lettre de retour?* [FB-repetition]
Stsame: *Oui.* [Needs-acknowledgment]
T3: *Bien regarde. Dans la conclusion, qu'est-ce qu'on a dit? . . . %Qu'est-ce qu'on disait dans la conclusion?%* [FB-elicitation]
Stdif: *%J'attends avec impatience votre lettre.%* [Repair-peer]

Reinforcement

Following repair, teachers often seize the moment to reinforce the correct form before proceeding to topic continuation by making short statements of approval such as, "Yes!," "That's it!," and "Bravo!" or by repeating the student's corrected utterance. We have coded these statements as "reinforcement." In addition, teachers frequently include metalinguistic information in their reinforcement. Although the model in Figure 1 depicts only post-repair reinforcement, teachers in our database use reinforcement moves elsewhere in the error treatement sequence; such moves are currently the object of more detailed analysis.

RESULTS

With regard to student errors, it is important to recall that we are not reporting the absolute number of errors produced by students but rather the number of student turns containing at least one error or use of the L1. Because the focus of the present paper is on different types of feedback and uptake, we will not be reporting on the different types of errors. The effect of error type on feedback type is an important variable and will be reported on in a subsequent study.

Table 1 provides a breakdown by teacher, as well as totals for the entire database, of the number of student turns; the number of student turns with at least one error or use of the L1 or in need of repair; the number of teacher turns containing feedback; the number of student turns with uptake; and the number of student turns with repair. The totals for the entire database are illustrated by the graph in Figure 2. One third of all student turns contain at least one error (or unsolicited uses of the

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Table 1. Frequency of turns with student error, teacher feedback, and student uptake

Teacher	Total Student Turns	Student Turns with Error or Needs-Repair (% of Total Student Turns)	Teacher Turns with Feedback (% of Total Errors)	Student Turns with Uptake (% of Feedback)	Student Turns with Repair (% of Feedback)	Student Turns with Repair (% of Total Errors)
T3	1407	353 (25%)	244 (69%)	171 (70%)	90 (37%)	90 (25%)
T4	736	299 (41%)	146 (49%)	63 (43%)	26 (18%)	26 (9%)
T5	664	287 (43%)	193 (67%)	91 (47%)	36 (19%)	36 (13%)
T6	461	165 (36%)	103 (62%)	52 (50%)	33 (32%)	33 (20%)
Total	3268	1104 (34%)	686 (62%)	377 (55%)	184 (27%)	184 (17%)

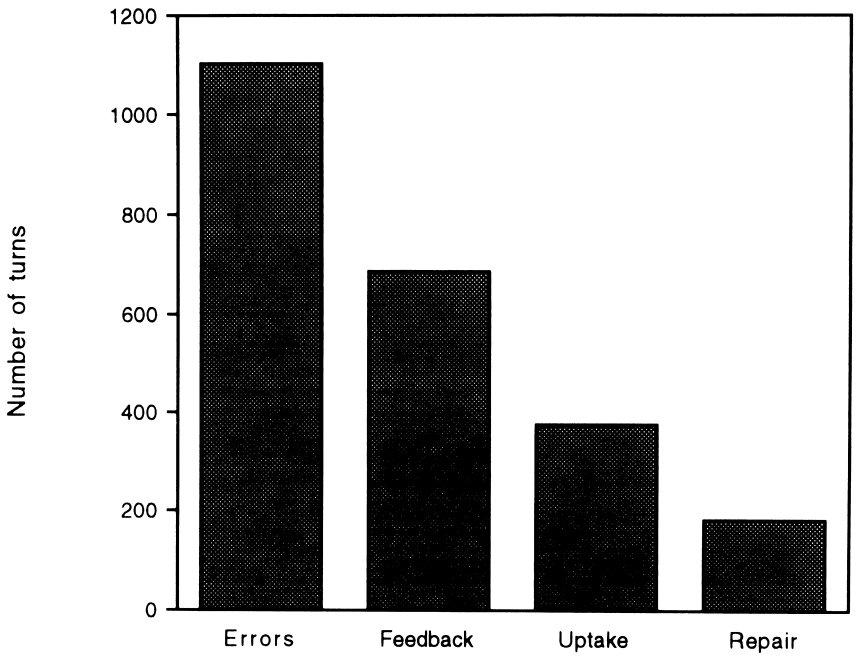


Figure 2. Total turns with error, feedback, uptake, and repair.

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Table 2. Distribution of feedback types

	T3 ($n = 243$)	T4 ($n = 146$)	T5 ($n = 194$)	T6 ($n = 103$)	Total ($n = 686$)
Recast	93 (39%)	96 (66%)	116 (60%)	70 (68%)	375 (55%)
Elicitation	45 (18%)	18 (12%)	26 (13%)	5 (5%)	94 (14%)
Clarification request	37 (15%)	9 (6%)	14 (7%)	13 (13%)	73 (11%)
Metalinguistic feedback	32 (13%)	3 (2%)	20 (10%)	3 (3%)	58 (8%)
Explicit correction	16 (7%)	15 (10%)	9 (5%)	10 (10%)	50 (7%)
Repetition	20 (8%)	5 (3%)	9 (5%)	2 (2%)	36 (5%)

L1) or are still in need of repair. Of these, 62% receive some kind of feedback from the teacher. This means that 38% of the time learners' errors are followed by a teacher or student topic continuation move. Of all the feedback moves provided by teachers in response to learner errors, just over half (55%) lead to uptake of some kind on the part of the learner; however, only 27% of the feedback turns lead to student repair. From the perspective of the total number of errors produced by students, only 17% of errors eventually lead to repair.

Preferences for different feedback types are displayed for each teacher in Table 2 as well as the total distribution of feedback types for all four teachers. Across the four teachers, the single largest category is the recast, which accounts for just over half (55%) of the total number of teacher turns containing feedback. The other feedback types are distributed in decreasing frequency as follows: elicitation (14%), clarification request (11%), metalinguistic feedback (8%), explicit correction (7%), and repetition (5%). The low figure for repetition is somewhat deceptive because teacher repetitions can, and frequently do, co-occur with the other feedback categories. From these findings, it appears that recasting the learner's ill-formed utterance is the feedback method of choice of these French immersion teachers. This is true for all four teachers, although T3 tends to recast less than the others. Other differences are noted in the small amount of elicitation used by T6, as well is in the small amount of metalinguistic feedback used by T4 and T6.

It may be asked whether all types of feedback are equally effective in leading to learner uptake. This question can be addressed by referring to the pattern of uptake following the different types of feedback, which is presented in Table 3. According to the model we have used (Figure 1), every learner response that follows teacher feedback is coded according to whether or not there is evidence of uptake. Recall that uptake consists of the categories of repair (repetition, incorporation, self, or peer) and needs-repair (attempts at repair that are in some way inadequate). In many cases, feedback does not lead to uptake because there is topic continuation, provided for the most part by the teacher (75% of the time) or by a student (25%

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Table 3. Uptake following teacher feedback

	Repair	Needs Repair	No Uptake
Recast ($n = 375$)	66 (18%)	49 (13%)	260 (69%)
Elicitation ($n = 94$)	43 (46%)	51 (54%)	0
Clarification request ($n = 73$)	20 (28%)	44 (60%)	9 (12%)
Metalinguistic feedback ($n = 58$)	26 (45%)	24 (41%)	8 (14%)
Explicit correction ($n = 50$)	18 (36%)	7 (14%)	25 (50%)
Repetition ($n = 36$)	11 (31%)	17 (47%)	8 (22%)

of the time). The number and percentage of feedback moves that do not lead to uptake are provided in the "No Uptake" column in Table 3.

It is evident that the recast, the most popular feedback technique, is the least likely to lead to uptake of any kind: Only 31% of the recast moves lead to uptake, with a fairly even distribution between repair and needs-repair. Explicit correction leads to uptake only 50% of the time, although it is more than twice as likely to lead to repair than needs-repair. Clarification requests, metalinguistic feedback, and repetition are similar in that they are effective at eliciting uptake from the student (88%, 86%, and 78%, respectively), although metalinguistic feedback is more successful at eliciting repair (45%) than either clarification requests (28%) or repetition (31%). The most successful technique for eliciting uptake is elicitation: All learner utterances following elicitation involve uptake with an almost even distribution between repair and needs-repair.

The preceding analysis focused on the relationship between feedback type and learner uptake. We may well wonder, however, whether all repairs are equally effective indicators that students have noticed the feedback. From a commonsense perspective it seems likely that the goal of the teacher should be for the learner to self-correct or to have another student correct the error (see Calvé, 1992). A repair in which the student simply repeats what the teacher has said does not necessarily imply that the feedback has been understood as such. For this reason, a further breakdown of the data involved separating peer- and self-repair from repetition and incorporation. To do so, we refer henceforth to peer- and self-repair as "student-generated repair"[8] and we conflate repetition and incorporation into one category, which we will continue to call "repetition."

The breakdown has been done in two ways. The first breakdown involves the number and percentage of each feedback type leading to repair, as presented in Table 4. Thus, when student repetition is removed, the percentages do not change for the categories of elicitation, clarification request, metalinguistic request, and teacher repetition of error—none of which can elicit student repetition because none provides the correct form. On the other hand, the percentages for recast and

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Table 4. Number and percentage of feedback turns leading to repair

	Number of Repairs	Repairs as % of Feedback Type	Number of Student-Generated Repairs	Student-Generated Repairs as % of Feedback Type
Recast ($n = 375$)	66	18%	0	0
Elicitation ($n = 94$)	43	46%	43	46%
Clarification request ($n = 73$)	20	27%	20	27%
Metalinguistic feedback ($n = 58$)	26	45%	26	45%
Explicit correction ($n = 50$)	18	36%	0	0
Repetition ($n = 36$)	11	31%	11	31%

Table 5. Number and percentage of repairs attributed to each feedback type

	Recast	Elicitation	Clarification Request	Metalinguistic Feedback	Explicit Correction	Repetition
All repairs ($n = 184$)	66 (36%)	43 (23%)	20 (11%)	26 (14%)	18 (10%)	11 (6%)
Student-generated repairs ($n = 100$)	0	43 (43%)	20 (20%)	26 (26%)	0	11 (11%)

explicit correction are reduced to nil because these two techniques provide learners with the correct forms and thus cannot lead to student-generated repair.

The second breakdown involves the number and percentage of repairs attributed to each feedback type, as displayed in Table 5. When we consider all types of repairs, recasts account for the highest percentage (36%), with elicitation in second place (23%), and the others ranging from 14% to 6%. However, if we focus on student-generated repairs alone, the picture changes dramatically. In this case, recasts do not account for any repairs, while elicitation is responsible for 43% of all student-generated repairs. Metalinguistic feedback, clarification requests, and repetition account for the remaining self-generated repairs: 26%, 20%, and 11% respectively. From both these tables, it is clear that the choice of feedback technique has an effect on the type of repair that follows.

DISCUSSION

The purpose of this study was twofold: first, to develop an analytic model comprising the various moves in an error treatment sequence and, second, to apply the model to a database of interaction in four primary L2 classrooms with a view to documenting the frequency and distribution of corrective feedback in relation to learner uptake. The analytic model was designed in accordance with the database itself and so

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remains to be validated by means of coding sets of classroom data from other contexts. With respect to the application of the model to the database in the present study, the findings permit the following responses to the three research questions:

1. What are the different types of corrective feedback and their distribution in communicatively oriented classrooms? Teachers in our study used six different feedback moves: recasts (55%), elicitation (14%), clarification requests (11%), metalinguistic feedback (8%), explicit correction (7%), and repetition of error (5%). Recasts were by far the most widely used technique.
2. What is the distribution of uptake following different types of corrective feedback? The feedback types least likely to lead to uptake were the recast, which resulted in uptake 31% of the time, and explicit correction, which led to uptake 50% of the time. The most likely to succeed was elicitation with 100% of these moves leading to uptake. Other good precursors to uptake were clarification requests, metalinguistic feedback, and repetition, which led to uptake 88%, 86%, and 78% of the time, respectively.
3. What combinations of corrective feedback and learner uptake constitute the negotiation of form? The feedback types that allow for negotiation of form are the four that lead to student-generated repair, namely, elicitation, metalinguistic feedback, clarification requests, and repetition. Both elicitation and metalinguistic feedback proved to be particularly powerful ways of encouraging repairs that involve more than a student's repetition of the teacher's utterance—these feedback moves resulted in student-generated repair 45% and 46% of the time, respectively. Clarification requests and repetition were the next most successful, eliciting student-generated repair 27% and 31% of the time, respectively. Recasts and explicit correction, both definitionally incompatible with student-generated repairs, elicited no repairs other than repetition.

In the present analysis, we have not addressed the issue of what types of errors teachers tended to correct, nor how they went about making these decisions. We do know, however, that teachers provided feedback on 62% of the student turns with errors—this varied roughly from 50% to 70% for the four individuals. These figures are not unlike findings from other studies concerned with teacher feedback, such as those reported in Chaudron (1988, pp. 136–138), and appear to represent a reasonable ratio of correction versus noncorrection in such interactive contexts. Although it is likely undesirable for teachers to provide corrective feedback more frequently than this, our results suggest that, when they do indeed provide feedback, teachers might want to consider the whole range of techniques they have at their disposal rather than relying so extensively on recasts, which comprised over 50% of all feedback moves. In so doing, teachers would ensure more opportunities for uptake following feedback: Our results indicated that almost 70% of all recasts did not lead to uptake.

It is important to acknowledge, however, the need for teachers to carefully take into account their students' level of L2 proficiency when making decisions about feedback. For example, T3—whose students have a higher degree of proficiency due to their more intensive and longer exposure to French—uses recasts considerably less than T4, T5, and T6 (39% vs. 66%, 60%, and 68%, respectively). This allows her to draw more on other feedback types and, in particular, on those that are more likely to lead to uptake. Indeed, 70% of T3's feedback turns led to student uptake,

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whereas 43%, 47%, and 50% of the feedback turns of T4, T5, and T6, respectively, led to uptake. Thus, given her students' higher level of proficiency, T3 is able to push students more in their output and to rely less on the modeling techniques (i.e., recasts with infrequent uptake) used by the other teachers with less advanced students.

Our results indicate that, in terms of absolute numbers, recasts accounted for the largest number of repairs (66) but that this is so due to the inordinately high frequency of recasts (375). When calculated as a ratio, only a small percentage of recasts (18%) led to repair, and all of these repairs involved repetition of the teacher's recast. Many researchers have questioned whether the modifications entailed in recasts are perceptible to learners (e.g., Allwright & Bailey, 1991, p. 104; Calvé, 1992, p. 468; Chaudron, 1988, p. 145; Netten, 1991, p. 304). Indeed, we find it interesting that recasts are referred to as "échos" in French even though they are not identical replications of the student's utterance; they are called echoes because the learners may perceive them as such—that is, learners do not necessarily notice the modification. Indeed, our transcripts of classroom interaction reveal a large number of teacher repetitions of well-formed student utterances; teachers do this consistently so as to reinforce what students have said and to build further on students' statements. As a result, there is a great deal of ambiguity in these communicative classrooms as students are expected to sort out whether the teacher's intentions are concerned with form or meaning. We find that feedback types other than recasts—namely, metalinguistic feedback, elicitation, clarification requests, and teacher repetition of error—eliminate this ambiguity by allowing students themselves to either self-correct or to correct their peers. Explicit correction also eliminates ambiguity but does not allow for student-generated repair.

Because our analytic model was designed to capture learner uptake only in turns immediately following corrective feedback, claims related to language learning remain speculative and subject to further empirical investigation. Nonetheless, we believe that these student-generated repairs in the error treatment sequence may be important in L2 learning for at least two reasons. First, they allow opportunities for learners to automatize the retrieval of target language knowledge that already exists in some form (e.g., as declarative knowledge; see Hulstijn, 1990; McLaughlin, 1987, 1990). Second, when repair is generated by students, the latter draw on their own resources and thus actively confront errors in ways that may lead to revisions of their hypotheses about the target language (Pica et al., 1989; Swain, 1993, 1995). In the case of recasts, classroom learners, whether they are given the opportunity to repeat or not, are less actively engaged insofar as there is little evidence that they can actually notice the gap (see Schmidt & Frota, 1986) between their initial use of nontarget forms and the teacher's reformulation, given the ambiguity of recasts from the classroom learner's perspective.

It is likely the case that teachers are reluctant to encourage self-repair more consistently lest the flow of communication be broken. However, our classroom observations as well as the data analysis revealed that none of the feedback types stopped the flow of classroom interaction and that uptake—that is, the student's turn in the error treatment sequence—clearly does not break the communicative flow either; on the contrary, uptake means that the student has the floor again. The

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four classrooms we observed and analyzed were not considered to be traditional classrooms and yet the discourse was structured in ways that allowed teachers to intervene regularly; they were able to do so by interacting with students without causing frustration because students appeared to expect such interventions. Thus, it appears that corrective feedback and learner uptake constitute an adjacency pair that is clearly anticipated in classroom discourse and that occurs as an insertion sequence without stopping the flow of communication (see Mey, 1993, p. 223, concerning repair as an insertion sequence that "does not damage conversational coherence").

Our data indicate that the feedback-uptake sequence engages students more actively when there is negotiation of form, that is, when the correct form is not provided to the students—as it is in recasts and explicit correction—and when signals are provided to the learner that assist in the reformulation of the erroneous utterance. Thus, the negotiation of form involves corrective feedback that employs either elicitation, metalinguistic feedback, clarification requests, or teacher repetition of error, followed by uptake in the form of peer- or self-repair, or student utterances still in need of repair that allow for additional feedback. In relation to the total number of feedback moves in our database, such combinations occurred about one-third of the time.

Drawing on the didactic function of negotiation as posited earlier in this paper, teachers in this study frequently understood their students' intended meaning and adopted an agenda with a pedagogical objective: They strove to direct students in their output by providing them with cues to draw on their own linguistic resources. Because this occurred during meaningful interactions in subject-matter lessons or in thematically oriented French language arts lessons, the expression of meaning prevailed and was not undermined by such negotiation of form, which nonetheless provided learners with timely opportunities to make important form-function links in the target language. Providing feedback as part of a negotiated sequence in this way, however, is of course feasible in L2 classrooms only where learners already possess an adequate level of proficiency. If this condition is met, then the four feedback types that serve to actively engage learners in the negotiation of form remain nonthreatening and potentially useful. The extent to which the negotiation of form may indeed enhance L2 learning in classroom settings will be the object of further investigation.

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NOTES

1. The question of "who" should correct errors has received some attention in the literature (see Allwright & Bailey, 1991) but empirical classroom-based research is lacking.

2. The distinction between the conversational and the didactic functions of negotiation parallels the distinction found in the literature between genuine and pseudorequests (Spada & Fröhlich, 1995) and between referential and display questions (Long & Sato, 1983).

3. A further example of the didactic function of negotiation—where a teacher understands her students' intended meaning but does not accept the nontarget forms used to encode that meaning—has been documented by Lightbown (1991). She describes a teacher in an intensive ESL program in Quebec who encouraged her students to produce more targetlike introducer forms (i.e., *there is* or *there are* rather than *you have*

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a . . .) by responding to nontarget forms with paralinguistic cues: "she would pretend to search in her hands and behind her back for whatever it was the student had said she *had*" (p. 207).

4. Teachers 1 and 2 are the Grade 6 teachers and have not been included in this part of the study. We have used the labels T3, T4, T5, and T6 in this paper to maintain consistency throughout subsequent reports deriving from this study.

5. The following conventions are used in the examples: St = student; Sts = more than one student; Stsame = the same student as in the previous student turn; Stdif = a different student from the previous student turn. Overlapping speech is indicated by %.

6. See van Lier, 1988, p. 103: "One of the prerequisites for a turn to count as a turn is *prominence,* i.e. it must be attended to by the other participants. . . . "

7. This utterance has not been coded as a multiple error because "je vas" is an attested form in the Quebec vernacular and has thus not been considered as a language learner error.

8. Although these repair moves have been coded separately, we will not tease apart, given the collective nature of classroom discourse, the differential effects of peer- and self-repairs.

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APPENDIX A: DATABASE

4 teachers
13 French language arts lessons (467 minutes = 7.8 hours)
14 subject matter lessons—science, social studies, math (633 minutes = 10.5 hours)
27 lessons totaling 1,100 minutes, or 18.3 hours

SCHOOL BOARD A—EARLY TOTAL IMMERSION

Teacher 3 (Grade 4)—11 Lessons (340 Minutes = 31% of Database)

1. Jan. 16	Language arts—prereading activity about meteorology	20 min
2. Jan. 16	Language arts—reading (*La météorologie en folie*)	30 min
3. Jan. 16	Science—mammals' means of adapting to environment	65 min
4. Jan. 16	Math—geometric translations	40 min
5. Jan. 30	Social studies—the first settlers	15 min
6. Feb. 6	Language arts—reading (*Les best-sellers*)	45 min
7. Mar. 6	Language arts—writing letters to companies	15 min
8. Mar. 8	Language arts—discussion (paying youth for chores)	20 min
9. Mar. 20	Language arts—discussion about vacation	25 min
10. Mar. 20	Language arts—reading (*Camomille la sorcière*)	20 min
11. Mar. 29	Language arts—students' poetry	45 min

SCHOOL BOARD B—MIDDLE IMMERSION

Teacher 4 (Grades 4/5)—4 Lessons (250 Minutes = 23% of Database)

1. Mar. 17	Science—students present science experiments	50 min
2. Mar. 17	Language arts—role-plays to reenact story	85 min
3. Mar. 24	Math—measurement and estimation	40 min
4. Mar. 31	Social studies—discovery of North America	75 min

Teacher 5 (Grade 4)—8 Lessons (325 Minutes = 29% of Database)

1. Mar. 14	Language arts—classified ads	50 min
2. Mar. 21	Language arts—discussion about long weekend	12 min
3. Mar. 21	Science—zoo animals	45 min
4. Mar. 28	Science—animals (habitat, sounds, movement)	58 min
5. Apr. 4	Science—bread and cereal food group	50 min
6. Apr. 11	Science—animals (oral presentations)	35 min
7. Apr. 11	Social studies—manufacturing of Whippet cookies	15 min
8. Apr. 25	Science—water cycle	60 min

Teacher 6 (Grade 4)—4 Lessons (185 Minutes = 17% of Database)

1. Apr. 3	Language arts—reading (*La cabane à sucre*)	55 min
2. Apr. 10	Language arts—reading (Easter)	45 min
3. Apr. 27	Science—animals	50 min
4. May 11	Science—the field mouse and review of body parts	35 min

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APPENDIX B: ENGLISH GLOSSES

(1) (T3—Social Studies—Jan. 30)
T3: *Je viens de descendances françaises. Et la France se trouve où?*
"I'm of French descendance. And where is France?"
St: *En Europe.* [Error-none]
"In Europe."
T3: *Ah! En Europe. Donc moi je serais une . . . ?*
"Ah! In Europe. So I would be a . . . ?"
St: *Européenne.* [Error-none]
"European."

(2) (T5—Social Studies—Apr. 11)
T5: *[. . .] Le premier chocolat, le premier biscuit à la guimauve, enrobé de chocolat, il a été inventé quand? Oui?*
"The first chocolate, the first chocolate covered marshmallow cookie was invented when? Yes?"
St: *En mille neuf cent soixante-sept.* [Error-none]
"In nineteen sixty-seven."
T5: *Non, c'était pas en mille neuf cent soixante-sept.*
"No, it wasn't in nineteen sixty-seven."

(3) (T6—Language Arts—Apr. 10)
T6: *Qu'est-ce que tu fais le dimanche de Pâques? Est-ce que tu manges des bonbons?*
"What do you do on Easter Sunday? Do you eat candy?"
St: *Du chocolat.*
"Chocolate."
T6: *Qu'est-ce tu fais?*
"What do you do?"
Stsame: *Je mange des Pâques.* [Error-lexical]
"I eat Easter."
T6: *Tu manges le Pa . . . , les Pâques, les Pâques? Qu'est-ce que ça veut dire "manger"?*
"You eat the Ea . . . Easter, Easter? What does 'eat' mean?"

(4) (T4—Science—Mar. 17)
St: *Démarche: Nous coupons les pailles en six différents grosseurs et attache les pailles avec le ruban gommé.* [Error-multiple]
"Procedure: We cut the straws into six different thicknesses and attaches the straws with tape."
T4: *Euh, David, excuse-moi. Je veux que tu te serves du mot "longueur." Vous avez coupé les pailles en différentes longueurs. Pas grosseurs.* [FB-explicit]
"Uh, David, excuse me. I want you to use the word 'length.' You cut the straws into different lengths. Not thicknesses."

(5) (T6—Science—Apr. 27)
St: *La note pour le* shot. [Error-L1]
"The note for the shot."

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T6: *Oh, pour la, oh, pour ça. Tu veux dire pour la piqûre. Piqûre. Oui?* [FB-explicit]
"Oh, for the, oh, for that. You mean for the needle. Needle. Yes?"

(6) (T6—Language Arts—Apr. 3)
St: *L'eau érable?* [Error-grammatical]
"Maple sap?"
T6: *L'eau d'érable.* [FB-recast] *C'est bien.*
"Maple sap. Good."

(7) T4—Science—Mar. 17)
St: *Parce que il veut juste lui pour être chaud.* [Error-grammatical]
"Because he wants just him to be warm."
T4: *Oh. Quelqu'un qui veut juste avoir la chaleur pour lui-même.* [FB-recast]
"Oh. Someone who wants to have the heat just for himself."

(8) (T6—Language Arts—Apr. 3)
St: *Est-ce que, est-ce que je peux fait une carte sur le . . . pour mon petit frère sur le* computer*?* [Error-multiple]
"Can, can I made a card on the . . . for my little brother on the computer?"
T6: *Pardon?* [FB-clarification]
"Pardon?"

(9) (T5—Science—Mar. 28)
St: *Euhm, le, le éléphant. Le éléphant gronde.* [Error-multiple]
"Uhm, the, the elephant. The elephant growls."
T5: *Est-ce qu'on dit le éléphant?* [FB-metalinguistic]
"Do we say *the* elephant?"

(10) (T5—Science—Mar. 28)
St: *Le chien peut court.* [Error-grammatical]
"The dog can runs."
T5: *Le chien peut court? Le chien peut . . .* [FB-elicitation]
"The dog can *runs*? The dog can . . . "

(11) (T3—Science—Jan. 16)
St: *Le . . . le girafe?* [Error-gender]
"The . . . the giraffe?"
T3: *Le girafe?* [FB-repetition]
"*The* giraffe?"

(12) (T3—Language Arts—Jan. 16)
St: *Appelez la météorologue.* [Error-phonological]
"Call the meterologist."
T3: *Non. Reprends-toi. Mé-té-o-ro-logue. Dis-le.* [FB-explicit]
"No. Try again. Me-te-o-ro-lo-gist. Say it."

(13) (T5—Science—Mar. 28)
St: *Il habiter.* [Error-grammatical]
"He to live."
T5: *Pas il habiter, il . . .* [FB-elicitation]
"Not 'he to live,' he . . . "

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(14) (T4—Science—Mar. 17)
St: *Là, je veux, là je vas le faire à pied.* [Error-lexical]
"Now, I wanna, now I'm gonna do it on foot."
T4: *. . . avec mon pied.* [FB-recast]
" . . . with my foot."
St: *. . . avec mon pied.* [Repair-repetition]
" . . . with my foot."

(15) (T3—Language Arts—Mar. 20)
St: *Mais, mais, elle nous a appellés le matin pis uhm dimanche Diana et son frère ils ont venu chez moi.* [Error-grammatical]
"But, but she called us in the morning, an', uh, Sunday, Diana and her brother came over to my place."
T3: *Sont venus.* [FB-recast]
"Came over."
St: *Sont venus chez moi pour jouer.* [Repair-incorporation]
"Came over to my place to play."

(16) (T3—Science—Jan. 16)
St: *La marmotte c'est pas celui en haut?* [Error-gender]
"The groundhog isn't the one on top?"
T3: *Pardon?* [FB-clarification]
"Pardon?"
St: *La marmotte c'est pas celle en haut?* [Repair-self]
"The groundhog isn't the one on top?"

(17) (T5—Science—Apr. 4)
St: *J'ai apporté du* pita bread. *Le pita, c'est le même chose.* [Error-multiple]
"I brought some pita bread. Pita's the same thing."
T5: *Oké, mais* pita bread, *comment tu pourrais dire ça tu penses?* [FB-elicitation]
"Okay, but pita bread, how do you think you could say that?"
Stdif: *Le pain pita.* [Repair-peer]
"Pita bread."

(18) (T3—Language Arts—Mar. 6)
St: *J'ai de la difficulté à . . . comment expliquer que em . . . pour lui qui . . . qui nous envoie une lettre dans le futur.* [Error-lexical]
"I have difficulty with . . . how to explain that, uhm . . . for him to . . . to send us a letter in the future."
T3: *Je ne comprends pas.* [FB-clarification]
"I don't understand."
Sts: *Moi non plus.*
"Me neither."
Stsame: *J'ai de la difficulté à . . . à formuler une phrase pour dire em . . . pouvez-vous renvoyer une lettre de ré . . . une lettre de retour.* [Needs-different]
"I have difficulty with . . . with formulating a sentence to say, uhm . . . can you send back a letter of re . . . a letter of return."
T3: *Une lettre de retour?* [FB-repetition]
"A letter of return?"

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Stsame: *Oui.* [Needs-acknowledgment]
"Yes."

T3: *Bien regarde. Dans la conclusion, qu'est-ce qu'on a dit? . . . %Qu'est-ce qu'on disait dans la conclusion?%* [FB-elicitation]
"Well, look. In the conclusion, what did we say? . . . %What were we saying in the conclusion?%"

Stdif: *%J'attends avec impatience votre lettre.%* [Repair-peer]
"%I am impatiently awaiting your letter.%"

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