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Pragmatics and Pedagogy: Conversational Rules and Politeness Strategies May Inhibit Effective Tutoring

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In this article, we identify ways that Grice's (1975) conversational rules and P. Brown and Levinson's (1987) politeness strategies are commonly employed in one-to-one tutoring interactions. We examined two cross-aged tutoring corpora from research methods and algebra tutoring sessions to show how these rules and strategies can potentially enhance and inhibit effective tutoring. Examples of these costs and benefits are presented within a five-step dialogue frame proposed by Graesser and Person (1994). There appear to be differences in the use of these politeness strategies when algebra tutoring protocols are compared with research methods protocols. We suggest that politeness strategies are more prevalent in less constrained domains, even though their use may inhibit effective tutoring.

Although tutoring has been employed as a pedagogical device for millennia, only recently has the process of tutoring been investigated scientifically (Fox, 1993; Graesser & Person, 1994; Leinhardt, 1987; McArthur, Stasz, & Zmuidzinas, 1990; Putnam, 1987; VanLehn, 1990). An understanding of the tutoring process is important, because tutoring typically is more effective than classroom instruction. Although most researchers in this area have referred to a positive cognitive change as an essential part of effective tutoring (e.g., Palincsar & A. L. Brown, 1984; Newman, Griffin, & Cole, 1989), a universally accepted definition of *effective tutoring* has not emerged. Researchers examining the advantage of tutoring compared with classroom instruction have reported effect sizes ranging from .4 to 2.3 standard deviation units (Bloom, 1984; Cohen, J. A. Kulik, & C. C. Kulik, 1982;

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Mohan, 1972). This advantage exists even though tutors typically are not highly trained (Cohen et al., 1982; Fitz-Gibbon, 1977; Graesser, 1993a, 1993b; Graesser & Person, 1994). In addition, this advantage is not attributable to age differences, because the effect sizes previously cited include expert, cross-aged, and peer tutoring.

Because these effects are not due to sophisticated pedagogical strategies or age differences, the true cause must lie elsewhere. One possible reason for the effectiveness of tutoring revolves around the dialogue that occurs between the tutor and student. Tutoring dialogue is more similar to normal conversation than is the lecture format used primarily in the classroom (Resnick, 1977). The purpose of this article is to illustrate how properties of conversation can potentially aid, as well as hinder, effective tutoring.

THEORETICAL PERSPECTIVES ON CONVERSATION

The implicit rules and strategies that facilitate normal conversation were first described by Grice (1975, 1978), who proposed that conversation is governed by one overarching rule: the cooperative principle. According to this principle, participants make a "good faith" effort to contribute to and collaborate on the conversation as it proceeds (Clark & Schaefer, 1987, 1989). Grice (1975, 1978) further suggested that this cooperation is augmented by a number of conversational maxims: quality (do not say things that are untrue), quantity (do not say more or less than is required), relevance (do not say things that are extraneous), and manner (be brief, be orderly, and avoid obscurity and ambiguity).

Other theorists have expanded Grice's (1975, 1978) approach. For example, Leech (1983) suggested an overarching politeness principle with several maxims (e.g., tact, generosity, approbation, and modesty). Leech maintained that the politeness principle is necessary for Grice's (1975, 1978) cooperative principle to be effective in normal conversation.

This interest in linguistic politeness has been most fully explored by P. Brown and Levinson (1987). In an analysis of languages used in three widely differing cultures (English in the United States and Britain, Tamil in India, and Tzeltal in Mayan Mexico), P. Brown and Levinson found that particular politeness strategies are used universally. They described dozens of conversational strategies that are used to facilitate social interaction. Central to P. Brown and Levinson's analysis is the notion of *face*, or one's self-image (Goffman, 1967). Individuals in a culture attempt to maintain a positive self-image and try to help others maintain their own self-images. This is not always possible, however, because face is frequently put in danger by face-threatening acts. Such acts include requests, criticisms, and demands. Each culture has devised a number of linguistic strategies to mitigate the impact of these face-threatening acts.

P. Brown and Levinson (1987) discussed three superstrategies that speakers may employ: *positive politeness*, *negative politeness*, and *off-record*. Positive politeness

refers to an appreciation of the hearer's wants and needs. It includes the acknowledgment of common ground (Clark & Carlson, 1981; Clark, Schreuder, & Buttrick, 1983), the acknowledgment that the speaker and hearer are cooperators, and a readiness to fulfill the speaker's wants (P. Brown & Levinson, 1987, p. 102). For example, by saying, "That sculpture is really beautiful, in a way," the speaker seeks to avoid disagreement with the listener. Perhaps the speaker does not really believe that the sculpture is beautiful; and by hedging (i.e., saying, "in a way"), the speaker is able to provide token agreement with the listener.

Negative politeness, in comparison, attempts to minimize impositions on the hearer. This somewhat confusing term does not imply a lack of politeness but rather a method of ingratiation. Negative politeness can be accomplished in various ways: The speaker can minimize the threat to the hearer, give the hearer the option not to act, or communicate the speaker's desire not to impinge on the hearer (P. Brown & Levinson, 1987, p. 131). By saying, "I just want to ask you if you can lend me a tiny bit of paper," the speaker minimizes the imposition on the listener by making the request as understated as possible.

A final superstrategy discussed by P. Brown and Levinson (1987) involves going off-record. A speaker makes a statement but does so in a vague way, leaving the interpretation of the comment open to the hearer (Craig, Tracy, & Spisak, 1986). For example, by saying, "It's hot in here," the speaker indicates her or his desire to have someone take action, perhaps by opening a window. This request is made obliquely, however, and gives the listener the option not to act.

Many of these off-record statements can be construed as violations of Grice's (1975) conversational maxims. For example, a speaker may violate the maxim of relevance by providing the hearer with a hint or may violate the maxim of quantity by overstating or understating. The maxim of quality may be violated by the use of irony, metaphors, or rhetorical questions. The maxim of manner may be violated by the use of vague or ambiguous statements (P. Brown & Levinson, 1987, p. 214). In all these ways, the speaker can save face by delivering face-threatening acts in an indirect way.

P. Brown and Levinson's (1987) analysis of politeness has become the dominant perspective in the area of linguistic politeness (Fraser, 1990; Kasper, 1990). There are, however, several difficulties in applying this theory in empirical research. Most important, as Craig et al. (1986) pointed out, the dozens of individual politeness strategies are not mutually exclusive; many speech acts can be justifiably coded under different strategies and even different superstrategies. For example, many requests for action are conventionally indirect (negative politeness) and understated (off-record).

These difficulties have led some researchers to propose new approaches to linguistic politeness (e.g., Penman's [1990] analysis of courtroom discourse). However, no alternative scheme has received much support. As a result, it is not possible to use P. Brown and Levinson's (1987) taxonomy to test empirically

some of the issues that their theory raises. As a general framework, however, the approach has clear utility.

P. Brown and Levinson's (1987) analysis of linguistic politeness may have great relevance to tutoring interactions. According to P. Brown and Levinson (p. 74), the degree to which an act is face threatening is determined by three factors: (a) social distance between the speaker and hearer, (b) the relative power of the speaker and hearer, and (c) the degree of imposition of the act. If social distance is high, relative power is asymmetrical, and imposition is high, then the "weightiness" of the face-threatening act is high. For example, a lawyer interrogating a widow about her husband's marital infidelities might make heavy use of these strategies. In most tutoring situations, the first two factors will be relatively high, because the tutor and student do not know each other and the tutor is clearly in control. The third factor (degree of imposition) will vary, depending on the seriousness of the imposition.

Other researchers have examined P. Brown and Levinson's (1987) politeness strategies in the context of requests (Craig et al., 1986), medical discourse (Aronsson & Rundström, 1989), and courtroom discourse (Penman, 1990). This approach, however, has not been utilized to clarify the process of tutoring discourse. Yet it is likely that the various politeness strategies are frequently employed in tutoring interactions.

The purpose of this article is to illustrate how the politeness strategies are used, both positively and negatively, during one-to-one tutoring. We do not attempt to quantify the various politeness strategies, however. At this early stage of research, it is premature to analyze strategies quantitatively at a fine-grained level (see Craig et al., 1986). The strategies will no doubt vary considerably among tutors, topics, and student populations. Our primary goal at this point is to document some of the interesting ways in which pragmatic principles interact with the tutoring process. Future studies will quantify the use of these strategies in different tutoring contexts.

The conversational rules and politeness strategies discussed in this article are summarized in Table 1. This article does not address all of P. Brown and Levinson's (1987) strategies but rather the subset that seems most germane to the tutoring process. In other words, the rules and strategies that we discuss were inductively selected, based on a close reading of the transcripts. Some of the costs and benefits associated with the rules and strategies are pointed out in Table 1.

THE CONVERSATIONAL FRAMEWORK OF TUTORING

Graesser and his colleagues (Graesser, 1993a, 1993b; Graesser & Person, 1994) examined the framework of tutoring interactions. An extensive analysis of tutoring transcript corpora revealed that a five-step dialogue frame is very prevalent during one-to-one tutoring:

TABLE 1
How Conversational Rules and Politeness Strategies May Affect the Tutoring Process

Type	*Benefits*	*Costs*
Gricean maxims		
Maxim of quantity (Do not make contribution more informative than is required.)	Student is not bored by repetition of material that has been mastered.	Tutor may need to be redundant and repetitious to ensure understanding by the student.
Maxim of quality (Do not say what you believe to be false.)	Student is not confused by contradictory or incorrect statements.	Tutor may need to expand on a student's error in order to expose the student's misconceptions (as in Socratic tutoring).
Maxim of relevance (Avoid extraneous material.)	Student is not burdened by material not pertinent to the topic at hand.	Tutor may need to bring in material that unifies and clarifies difficult topics.
Maxim of manner (Be brief and orderly.)	Student benefits from an orderly exposition of the material.	Tutor may need to backtrack or skip over topics to identify or correct a student's weaknesses.
Positive politeness		
Exaggerate (show interest, approval, and sympathy).	Student is reinforced for mastering the material.	Feedback may be inappropriate for the response (e.g., ignoring minor errors in the response).
Avoid disagreement (token agreement, hedging).	Student is not challenged or put in adversarial relationship with the tutor.	Tutors need to correct the student's knowledge deficits or develop student's reasoning skills.
Be optimistic.	Used by tutor to facilitate student's response.	Sets student up for failure if the student does not know the answer.
Presuppose common ground (assume that referents are known to hearer).	Time is not lost in a discussion of terms and principles already familiar to student.	Tutor's assumptions about student's knowledge may be false, leading to gaps in the student's knowledge.

(Continued)

TABLE 1
(Continued)

Type	*Benefits*	*Costs*
Negative politeness		
Be conventionally indirect.	Student is not continually following tutor's commands.	Students may not understand what is expected from them.
Be pessimistic.	Reduces anxiety on part of student if probability of failure is high.	May cause student to believe that failure is expected or acceptable.
Minimize imposition.	Tutor's requests are made to seem less burdensome.	Tutor may inhibit student's learning by reducing the student's cognitive burden.
Apologize.	Used to clarify or restate ambiguous question.	May cause loss of tutor's credibility in the eyes of the student.
State the face-threatening act as a general rule.	Tutor does not need to provide rationale for statement.	Obscures relation between student's act and general principle.
Off-record		
Give hints.	Tutor facilitates the student's answer.	Hints may be inappropriate, vague, or too specific.
Understate.	Softens the blow of critical feedback.	Feedback may be inappropriate for the response (e.g., minimizing errors even when they are severe).
Use metaphors.	Facilitates the comprehension of complex topics.	Students may not understand or only partially understand the metaphor.
Use ellipsis.	Tutor assists student in constructing answer.	Tutor may obscure student's lack of understanding by providing too much information or doing the work for the student.

1. Tutor asks a question.
2. Student answers the question.
3. Tutor gives feedback on the answer.
4. Tutor and student collaboratively improve the quality of (or embellish) the answer.
5. Tutor assesses student's understanding of the answer.

An example of a five-step dialogue frame from our corpus is shown in Example 1. The student was being tutored on the concept of factorial designs in a research methods tutoring session:

Example 1:

Step 1

1.1 Tutor: So, how many *F* scores would be computed?

Step 2

1.2 Student: Three.

Step 3

1.3 Tutor: Three [agreeing with the student].

Step 4

1.4 Tutor: And what numbers [referring to a matrix of cell means] would you use?
1.5 Student: You would do one for humor [one of the independent variables].
1.6 Tutor: And what does that tell you?
1.7 Student: I'm not sure [laughs].
1.8 Tutor: OK, why do you do an *F* score? What is an *F* score?
1.9 Student: To see the size, uh, significance?
1.10 Tutor: The size of the significance.
1.11 Student: The size of the significance.
1.12 Tutor: Right, how statistically significant a variable is.
1.13 Student: Right.
1.14 Tutor: So, you are right, you would have three [*F* scores]: one for caffeine, one for humor, and one for . . . ?
1.15 Student: The scores . . . from caffeine and humor?
1.16 Tutor: Interaction, the interaction of the two, right.
1.17 Student: Um hmm.
1.18 Tutor: [Explains independence of main effects]

Step 5

1.19 Tutor: Do you see what I'm saying?
1.20 Student: Um hmm.

There is some flexibility in the implementation of this five-step frame. For example, a step may consist of more than one turn. In Example 1, Step 4 starts at 1.4 and continues through 1.18. It is also possible that steps may be omitted.

For example, Step 3 may not occur—that is, the tutor may choose not to supply feedback on the student's answer.

The heart of the tutoring process can be found in the last two steps of this dialogue frame. During Step 4, the tutor and student elaborate on the ideas raised in the earlier steps. In a classroom, however, this elaboration is less likely to occur or to be individually tailored to a particular student. In addition, Step 5 allows the tutor to monitor closely the student's understanding. Once again, this monitoring is less likely to occur in a classroom setting.

Mehan (1979) reported that only the first three steps occur in normal classroom instruction. Given the advantages of tutoring over classroom instruction, it seems reasonable to assume that Steps 4 and 5 are especially important in correcting and repairing knowledge deficits. In particular, it is during Step 4 that the tutoring session becomes truly collaborative. That is, both tutor and student contribute crucial pieces of information to arrive at the correct solution (Graesser, 1993b; Graesser & Person, 1994; for a related point, see Resnick, Salmon, Zeitz, Wathen, & Holowchak, 1993). In Step 5, however, relatively little information is exchanged; the tutor attempts to assess the student's grasp of the topic at hand. This reliance on the student's self-assessment is problematic, because students are rarely able to calibrate their own comprehension (Chi, Bassok, Lewis, Reimann, & Glaser, 1989; Epstein, Glenberg, & Bradley, 1984; Glenberg, Wilkinson, & Epstein, 1982; Person, Graesser, Magliano, & Kreuz, 1994; Weaver, 1990).

In the remainder of this article, we show how Grice's (1975, 1978) conversational rules and P. Brown and Levinson's (1987) politeness strategies positively and negatively affect the pedagogical process in the five-step tutoring frame. We draw examples from two different tutoring domains, which are described in detail in the next section.

TWO TUTORING SAMPLES

We examined two different tutoring corpora: college students learning research methods and seventh graders learning algebra. We chose these corpora for various reasons. First, these corpora were analyzed previously in the context of question asking and answering (Graesser, 1993a, 1993b; Graesser, Person, & Huber, 1992, 1993). Second, these corpora are examples of cross-age tutoring, which is the form of tutoring common in most school systems (Cohen et al., 1982; Fitz-Gibbon, 1977). Third, these corpora are drawn from very different tutoring domains; the algebra tutoring can be thought of as a relatively closed-world domain (Collins, Warnock, Aeillo, & Miller, 1975; Fox, 1993) compared with research methods tutoring, which has less specified boundaries. It may be the case that the politeness strategies previously described may operate differently, depending on the type of tutoring domain.

Sample 1: College Students Learning Research Methods

Students and tutors. Tutoring protocols were collected from 27 undergraduate students enrolled in a psychology research methods class at the University of Memphis. All students participated in the tutoring sessions in order to fulfill a course requirement. The tutoring protocols, therefore, were a representative college sample rather than a sample restricted to students who were having difficulty.

The tutors were six psychology graduate students who had each received an A in both an undergraduate and a graduate research methods course. Each of these graduate students had tutored on a few occasions prior to this study but not in the area of research methods.

Learning materials. The course instructor selected six topics that are normally troublesome for students in a research methods course. A list was prepared for each of the six topics; three to five relevant subtopics were also included in the list. The tutors were instructed to cover these topics and subtopics in the tutoring sessions. The topics and subtopics were as follows:

Variables:	Operational definitions, types of scales, and values of variables.
Graphs:	Frequency distributions, plotting means, and histograms.
Statistics:	Decision matrices, Type I and Type II errors, *t* tests, and probabilities.
Hypothesis testing:	Formulating a hypothesis, practical constraints, control groups, design, and statistical analyses.
Factorial designs:	Independent variables, dependent variables, statistics, main effects, cells, and interactions.
Interactions:	Independent variables, main effects, types of interactions, and statistical significance.

The students were exposed to the material on two occasions prior to their participation in the tutoring sessions. First, each topic was covered in a lecture by the instructor before the topic was covered in the tutoring session. Second, each student was required to read specific pages in a research methods text (*Methods in Behavioral Research*, Cozby, 1989) prior to the tutoring session. This ensured that the students would have some familiarity with the topics and provided more common ground for the tutoring session.

Procedure. Each student participated in two types of tutoring sessions: unstructured (or "normal") tutoring sessions and structured tutoring sessions. This manipulation, included to address other pedagogical issues (see Graesser, 1993a), is not addressed in this article.

Three of the tutors were assigned to the unstructured tutoring sessions. In these sessions, the tutors were not given a specific format to follow. When a student entered the tutoring room, the student was instructed to sit in view of a camera and to read aloud the list of topics. The tutoring session then proceeded in the direction that the tutor and student saw fit.

The other three tutors were assigned to the structured tutoring sessions. In these tutoring sessions, tutors and students worked through a set of predetermined problems relevant to the topics and subtopics provided on their list. All six of the tutors were also instructed to encourage student questions and to avoid simply lecturing to the student. Each tutoring session was videotaped and lasted approximately 60 min.

Each of the 27 students participated in four tutoring sessions. A counterbalancing scheme was designed so that (a) a student never had the same tutor twice, (b) each tutor covered all six topics, (c) each tutor was assigned to 18 tutoring sessions, and (d) a student participated in two unstructured tutoring sessions and two structured tutoring sessions. Therefore, each tutor instructed three students on each of the six topics, which yielded 108 tutoring sessions. Twenty-five of the tutoring sessions could not be transcribed due to audio problems.

Sample 2: Seventh Graders Learning Algebra

Students and tutors. This sample consisted of 22 tutoring sessions in which high school students tutored seventh graders enrolled at a middle school in Memphis. This corpus included all of the algebra tutoring sessions from the school during a 1-month period. Algebra teachers identified 13 seventh graders who were having difficulty in their courses. The tutors were 10 local high school students who normally provided tutoring services for the middle school. On average, the tutors had 9 hr of prior algebra tutoring experience. Like the research methods sample, the algebra sample was an example of cross-age tutoring. This sample, however, differed from the research methods sample in that the seventh graders participated in the tutoring sessions in order to remediate their knowledge deficits rather than for course credit.

Tutoring topics and sessions. Most of the tutoring sessions focused on three topics that are frequently troublesome to seventh-grade algebra students. These included (a) positive and negative numbers, (b) fractions, and (c) constructing algebraic equations from word problems. These topics were typically associated with homework problems, examination items, or a chapter in the algebra text. Tutors and students frequently referred to this material during the tutoring sessions. The tutoring sessions lasted approximately 45 min, which is roughly comparable to the research methods sessions. Each session was videotaped by a research assistant from the University of Memphis.

Transcription and Coding of the Tutoring Sessions

Transcribers received a 1-hr training session on how to transcribe the videotapes. They were instructed to transcribe the entire tutoring sessions verbatim, including all "ums," "ahs," word fragments, broken sentences, and pauses. The transcribers specified whether an utterance was made by the student or tutor. In addition, transcribers also noted messages that appeared on the marker board, hand gestures, head nods, and simultaneous speech acts that occurred between the student and tutor. Each transcription was verified for accuracy by a research assistant who spot-checked random segments of each of the videotapes.

EXAMPLES FROM THE PROTOCOLS

In this section, we provide examples of the positive and negative consequences of the conversational rules and politeness strategies in the tutoring corpora described earlier. The following paragraphs illustrate the use of these rules and strategies within the five-step dialogue frame proposed by Graesser and Person (1994).

Step 1: Tutor Asks a Question

Typically, a tutoring exchange is initiated by a question posed by the tutor. Depending on the tutoring domain, the question may be relatively open-ended or relatively constrained. The topics addressed by the tutors in the research methods sessions lacked the specificity of the topics addressed in the algebra tutoring sessions. Example 2 shows a typical topic from the research methods corpus:

Example 2:

2.1 Tutor: OK. All right. So, we've specified our hypothesis. OK. What else do we need to do before we perform a *t* test or an *F* test?

This can be contrasted with a Step 1 question from the algebra corpus:

Example 3:

3.1 Tutor: Let's try another one. Ah, number eight, the number of seats on the new 525 airliner is a 36% increase over the old model. The new plane seats 374 passengers. How many passengers did the old model seat?

In Example 2, the tutor gave the student a great deal of latitude in specifying how to move from a hypothesis to a statistical analysis. For example, the student had the option to declare a population or a sample or to define operationally the

dependent measure. In Example 3, however, the tutor was requesting a numeric response that the student had to generate by applying the appropriate equation. Appropriate answers were much more constrained in Example 3 than in Example 2. Although it oversimplifies matters, hereafter we assume that algebra is a more constrained, closed-world domain than is the research methods domain.

The conversational rules and politeness strategies provided in Table 1 both facilitate and inhibit the tutoring process. For example, at this early stage in the five-step frame, the tutor may attempt to put the student at ease by minimizing the imposition of his or her question. This is demonstrated in Example 4, which was drawn from a research methods session on factorial designs:

Example 4:

4.1 Tutor: You can tell me a little bit about the reasons for using an experiment with more than two levels of an independent variable.

In fact, Example 4 illustrates at least three politeness strategies at work simultaneously: The tutor was being optimistic ("You can tell me"), understating the request ("a little bit"), and minimizing the imposition of the request ("a little bit"). By doing all these things, the tutor was facilitating the student's response. The tutor was indicating that the student knew the answer, and the tutor was telling the student that even a minimal response would be appropriate. On the other hand, the tutor's request may have been unclear (how much does the tutor want to know?), and the tutor may have set the student up for failure (by assuming that the student would be able to provide the requested information).

Sometimes the tutor and student must negotiate in order to produce a question that the student can answer. Graesser (1993a, 1993b) documented that, when the tutor asks multiple questions, they become progressively more simple until the student can provide a response. As a result, the student ultimately answers a question that has been greatly simplified. This can be seen in Example 5, drawn from a research methods session on variables:

Example 5:

5.1 Tutor: What type of scale would that be?
5.2 Student: Oh, let me think, which one. I don't know.
5.3 Tutor: Try to think. Nominal or . . . ?
5.4 Student: Ordinal, yeah.

In Example 5, the student had answered correctly but only after the number of possible answers had been reduced by the tutor. This example also demonstrates the use of ellipsis and the giving of hints to simplify the question. If these strategies oversimplify the tutor's questions, a student may never be challenged to answer questions on the frontier of his or her knowledge.

Tutors occasionally pose questions that are unclear or vague, so that the student may encounter difficulty in attempting to provide an answer. In such cases, the

tutor may apologize, as illustrated in Example 6, drawn from a research methods session on formulating a hypothesis:

Example 6:

6.1 Tutor: What is the effect of no limited relation versus limited relation?
6.2 Student: What do you mean?
6.3 Tutor: I'm sorry. I knew I was asking the wrong question. I've gotta be careful . . . um, there's something that makes a correlational method not so wonderful [. . .] and something that makes the experimental method wonderful. Do you know what that would be?

The tutor apologized to acknowledge explicitly the incorrect and potentially confusing question at 6.1. By apologizing, the tutor demonstrated her sensitivity to the student's need for clarity. There would seem to be little cost in apologizing for a mistake on the part of the tutor. If the tutor continued to do this, however, the student may have begun to doubt the credibility of the tutor.

Step 2: Student Answers the Question

During Step 2, the student makes his or her initial attempt to answer the tutor's question. By definition, the tutor plays a relatively passive role, although much of the tutor's effort during Step 1 is directed at constructing a question that the student can answer. Clearly, the student's answer will affect the feedback that the tutor provides (see Griffin & Humphrey, 1978). Our focus here, however, is how tutors use conversational rules and politeness strategies. Because the tutor does not participate in Step 2, we do not discuss this step in further detail.

Step 3: Tutor Gives Feedback on the Answer

Clear, discriminating, and accurate feedback by the tutor is presumably essential for effective tutoring. Previous research, however, has shown that tutors provide, with roughly equal likelihood, both positive and negative feedback to students' error-ridden answers (Graesser, 1993b). Vague answers on the part of the student are normally met with positive feedback from the tutor rather than negative feedback (Graesser, 1993b). Why do tutors provide positive feedback in these cases? It seems likely that tutors avoid negative feedback as much as possible, because it is very face threatening for the student. Consequently, this convention of normal conversation may inhibit the effectiveness of the tutoring process.

Example 7 illustrates inappropriate feedback by the tutor, drawn from a research methods session on variables:

Example 7:

7.1 Tutor: What is an inferential statistic?

7.2 Student: A statistic that gives you information about something that's gonna happen. Or could happen, possibly.

7.3 Tutor: Also, something that's kind of implicit with inferential statistics that people tend not to think about is [. . .] that if people went out and surveyed and surveyed that they'd get the same information as a statistic. . . .

At 7.2, the student's answer was incorrect. He seemed to have confused the concepts of predictability and generalizability. At 7.3, the tutor violated the maxim of quality (i.e., assuming that the tutor realized that the student's answer was incorrect). We would argue that the tutor should violate the maxims of quantity and manner in order to provide effective feedback. That is, the tutor needs to provide much more information, because the student's answer is error-ridden. Perhaps the tutor failed to provide appropriate feedback because she was attempting to avoid disagreement with the student. The student, however, may have mistakenly believed that his answer was correct, because the tutor used the word *also*, rather than *no* at 7.3. A more appropriate answer at 7.3 would have been, "No, inferential statistics refers to the ability to generalize to a population from a sample and not what may happen in the future."

We can contrast Example 7 with Example 8 (from an algebra session on fractions), in which the tutor gave appropriate feedback that addressed the student's misconception:

Example 8:

8.1 Tutor: Let's try this one: $\frac{5}{18}$ths minus negative $\frac{3}{6}$ths.

8.2 Student: Uh, this one would just go like that [pointing to previously worked problem]?

8.3 Tutor: Well, um, actually, no, no, you couldn't do that. Sorry.

The feedback in Example 8 was more appropriate, although politeness strategies were still being employed: The tutor apologized (perhaps allowing the student to save face after an error).

When a student commits an error in a tutoring session, the tutor has the responsibility to acknowledge and correct the error. Because, by definition, this is a face-threatening act, it seems likely that the politeness strategies will be employed to make the feedback less aversive. In Example 9, drawn from a research methods session on graphing, a student had constructed a frequency polygon but had not labeled the axes. The tutor attempted to make the student realize this on her own. Because he chose to be conventionally indirect, however, this required a number of turns to accomplish:

Example 9:

9.1 Tutor: OK, you've got the right numbers.

9.2 Student: Yeah, OK, I just needed . . .

9.3 Tutor: OK, is there anything else about this graph that you would want to do before you finish? I mean, do you consider this finished?
9.4 Student: I guess I could, I could draw a line . . .
9.5 Tutor: What if you walked up to this graph and you had never seen [it]?
9.6 Student: Oh, I guess I should label these [points to the axes].
9.7 Tutor: Yeah, yeah.

Although some might argue that students should be encouraged to discover such problems on their own, in this example the student focused on a less important error in her graph (i.e., drawing a line to connect the points on the graph). By being conventionally indirect, the tutor created ambiguity and took time away from correcting the more important problem.

The problem of being too indirect has been noted in other domains. In their study of Swedish allergists, Aronsson and Rundström (1989) mentioned that allergists must frequently ask patients to remove their clothes. Clearly, this is a face-threatening act; and the allergists, as expected, made their request in very indirect ways. This led to confusion on the patients' part, because they were typically left unsure whether to remove their clothes at all or how much clothing to remove.

As we have seen previously, there are examples in this step in which the tutor used multiple politeness strategies to address student's errors. Example 10, drawn from an algebra session on variables, shows the simultaneous use of two negative politeness strategies: be conventionally indirect and state the face-threatening act as a general rule:

Example 10:

10.1 Tutor: . . . OK, now, what it is, just *FOIL*. OK, FOIL. It stands for "first, outside, inside, last." OK, so what you do is you take [the] first one, right? You multiply these two, and you take the outside, the inside, and the last. Do you see how that works?
10.2 Student: Here's the way I've done it [student mumbles solution to the problem from the book to himself].
10.3 Tutor: Right. Well, see that's one way to do it, but they like this [the FOIL method]; this is really the way most people like to do it [elaborates on reasons].

At 10.3, the tutor erroneously told the student that his method works, when in fact it does not. This is typical of how a tutor corrects a problem, albeit indirectly. First, the tutor agrees with the student but then goes on to qualify this agreement (in this case, by stating the face-threatening act as a general rule). This is problematic, because the student may, nonetheless, continue to cling to his or her misconception.

Step 4: Tutor and Student Collaboratively Improve the Quality of the Answer

Students typically provide very abbreviated answers to questions. Tutors, therefore, find it necessary to encourage them to elaborate their responses (Graesser, 1993a, 1993b; Graesser & Person, 1994). As a result, the construction of an answer can be thought of as a collaborative activity in which the student and tutor work together to construct an acceptable answer (Graesser, 1993a, 1993b; Kreuz & Roberts, 1993; Resnick et al., 1993).

The tutor can use several strategies to facilitate this process. For example, the tutor may provide a hint, ask an embedded question, or employ a scaffolding technique in order to increase the likelihood of a student's response. When used to extreme, however, these strategies encourage passive learning. Example 11, drawn from a research methods session on interactions, shows an embedded question at 11.3.

Example 11:

11.1 Tutor: . . . All right, let's try another one. Let's say we had, oh, wait. First of all, let's translate this in terms of our experiment.
11.2 Student: OK.
11.3 Tutor: OK. What does this mean as far as type of drug?
11.4 Student: It had no effect.
11.5 Tutor: In other words, using cornflakes . . . were no different than using moodflakes. Therefore, moodflakes must not have been a real drug. All right! Good job.

Example 11 shows some of the costs associated with encouraging the student's responses. At 11.5, the tutor exaggerated by providing excessive praise even though the student's input was minimal. Once again, use of oversimplified embedded questions, combined with excessive praise, may lead to a relatively passive role on the part of the student.

The tutor sometimes contributes information that confuses the student, as in Example 12. The various types of scales (nominal, ordinal, interval, and ratio) were being discussed in a research methods session on variables:

Example 12:

12.1 Tutor: OK, the way I remember that, um, when I was trying to learn it was . . . I knew in French the word *black* is *noir*, N-O-I-R, and you can remember it that way.
12.2 Student: Well, yeah, yeah.
12.3 Tutor: So you can think of *noir*, N-O-I-R.
12.4 Student: So what does that, what does *black* have to do with *nominal*?

Here is a mnemonic that has gone sadly awry. The tutor attempted to provide the student with a memory aid, but she did not make sufficiently clear how it

applied to the names of the scales. The confusion arose because the tutor presupposed common ground—that is, that the student knew that the relationship between the spelling of *noir* and the names of the scales was arbitrary.

Tutors frequently do the students' work for them in a tutoring session. Tutors often ask questions that provide too much information (a violation of Grice's [1975] maxim of quantity), which lessens the cognitive burden for the student. Example 13, drawn from an algebra tutoring session on fractions, illustrates this:

Example 13:

13.1 Tutor: And you want to multiply that by . . . ?
13.2 Student: 6, 42.
13.3 Tutor: Yeah.

In this example, the tutor provided the operation information, and all the student had to do was provide the numbers. One might expect this strategy to occur during the early stages of a tutoring session, when the student has not yet mastered the material. If the tutor adhered to this strategy throughout the tutoring session, however, the misconceptions of the student might never have been addressed, and the student would rely on the tutor to supply the structure of the dialogue.

A more appropriate method for later stages in the tutoring session is shown in Example 14, in which the tutor and student were discussing the next step in computing a *t* test:

Example 14:

14.1 Tutor: We are going to use the scores?
14.2 Student: Yeah.
14.3 Tutor: OK, What's the first thing we need to do?
14.4 Student: You have to write the scores down. It gets more complicated.
14.5 Tutor: OK, you would, we would need all of those scores. So, um, what would we do when we've got all the scores?
14.6 Student: Um, OK, you have a mean?
14.7 Tutor: OK. . . .

In this example, the tutor never said more than the student had already said. This could be thought of as a violation of the maxim of quantity, because the tutor's repetitions are not supplying new information. This technique, however, promotes active learning by forcing the student to do most of the work.

The student's answer in the next example illustrates a violation of relevance, because the student focused on a relatively minor detail in the tutor's question. Example 15 is drawn from a research methods session on variables.

Example 15:

15.1 Tutor: Why would NIMH not give me five million dollars to do a correlational study?

15.2 Student: 'Cause it's, well, that's a lot of money.

15.3 Tutor: Say $1,500. It's aside from the money issue, if, OK . . .

At 15.3, the tutor dealt with this violation by explicitly redirecting the student away from the irrelevant aspect of the question. Although Example 15 illustrates a violation of relevance by the student, it is important to note that the tutor adhered to the maxim of relevance.

On the other hand, tutors may need to violate the maxim of relevance in order to introduce material that facilitates the student's understanding of the topic at hand. The tutor may provide background information, new examples, or alternative explanations in order to ensure student comprehension, even though they may appear to be irrelevant. If, for example, a tutor proposes a confounding variable to explain an experimental result, the new variable may seem irrelevant to the topic at hand, until the student realizes the underlying relationship. For example, a tutor may ask the student whether two groups of subjects were tested at the same time of day. This question will appear irrelevant until the student realizes that time of day may affect dependent measures such as reaction time.

Collins and his colleagues (1977, 1985; Stevens, Collins, & Goldin, 1982) dissected the process of Socratic tutoring as an important pedagogical technique. In Socratic tutoring, the tutor does not correct an error committed by the student; rather, the tutor asks a sequence of carefully selected questions that expose the student's misconceptions. Interestingly, for the tutor to employ Socratic tutoring, the tutor must violate the maxim of quality, because the tutor, in effect, is acting as if the error is correct.

Example 16 illustrates Socratic tutoring that begins during Step 2. It occurred during a discussion of how to design a study that would determine the relationship between divorced parents and depressed children. Ethically, this could only be accomplished by using a correlational approach.

Example 16:

16.1 Tutor: Tell me first, ah, what kind of experiment would it be? I mean, what method? Would it be . . . are you going to have an experimental design?

16.2 Student: Yes.

16.3 Tutor: You are?

16.4 Student: Probably so, um, because not all children, if they're depressed are going to be . . . you're not going to be able to look at any data on depressed children. Well, I mean, let me start over. You can look at data on depressed children and whether or not their parents are divorced, *but* if you wanted to really test your hypothesis, it would be better if you conducted an experimental research design.

16.5 Tutor: OK, I'm curious, OK, now how would we go about doing that? OK, this is all up to you.

During the next several turns, the student struggled to explain his answer, while the tutor provided minimal input (e.g., "um hmm," "OK"). Socratic tutoring requires that the tutor maintain the student's false beliefs until it becomes obvious to the student that these beliefs are false. After several such turns, the tutor intervenes:

Example 16 (continued):

16.11 Tutor: . . . and, I don't, I could be wrong, but are you manipulating anything?

16.12 Student: No, you're absolutely right. No, I'm not.

Socratic tutoring is rare in most tutoring interactions, because this method requires a high level of domain knowledge, as well as a great deal of tutoring experience on the part of the tutor (Collins et al., 1975). Socratic tutoring may also be uncommon because it forces tutors to violate normal conversational rules: in this case, the maxim of quality.

In other cases, Socratic tutoring involves violating the maxim of relevance, because the tutor introduces a seemingly irrelevant idea that will, ideally, redirect the student's line of thinking. Collins (1977), for example, provided an example of a violation of relevance:

17.1 Tutor: Where in North America do you think rice might be grown?

17.2 Student: Louisiana.

17.3 Tutor: Why there?

17.4 Student: Places where there is a lot of water. I think rice requires the ability to selectively flood fields.

17.5 Tutor: OK. Do you think there's a lot of rice in, say, Washington and Oregon?

17.6 Student: Aha, I don't think so.

17.7 Tutor: Why?

17.8 Student: There's a lot of water up there too, but there's two reasons. First, the climate isn't conducive, and second, I don't think the land is flat enough. You've got to have flat land so you can flood a lot of it, unless you terrace it. (p. 351)

In 17.3, the tutor asked a question to ensure that the student's reasoning was focused on the relevant steps in the causal chain for growing rice. That is, rice needs to be flooded. In 17.4, the student stated that rice grows in "places with a lot of water." The tutor immediately chose counterexamples (Washington and Oregon) that might have seemed irrelevant to the student. However, this statement forced the student to think of other causal factors besides water.

In the classroom, teachers may attempt to explain difficult concepts by appealing to a conceptual metaphor (i.e., the atom is like the solar system). One advantage to this approach is that a difficult concept may be simplified for the students. The metaphor, however, may lead to even more severe misconceptions. Feltovich, Spiro, and Coulson (1989) showed that teachers often use inappropriate metaphors to explain difficult concepts. We have found that a similar problem occurs during tutoring. In Example 18, the tutor and the student were discussing main effects and interactions. This tutor frequently chose to use a metaphor in order to determine the presence of a main effect in a graph. The tutor would suggest that the student visually collapse together the lines in the graph; if the resulting line had a slope, this implied the presence of a main effect. This method was referred to as the "squish" metaphor:

Example 18:

18.1 Tutor: But there are some neat tricks to being able to figure out graphically [whether a main effect of a variable is depicted]. . . . Well, now we can get from here [cell means] to a graph, right?

18.2 Student: Um hum.

18.3 Tutor: 'Cause once you're at the graph, it's real easy to figure out if there's a main effect for A, a main effect for B, and an interaction.

18.4 Student: If they're parallel, well . . . If they're parallel, there's no interaction.

18.5 Tutor: . . . Um, we would do what's called *collapsing* the two lines. I call it kinda squishing 'em. . . . What you would do, if this line is horizontal [points to new, squished line] . . . we would say that there is no main effect for A. But since it's not horizontal and *is* at a certain angle where one end is different from the other endpoint, then you can say that there *is* a main effect for A. OK, let's see, how about this [draws two lines on a graph that depict a main effect for the A variable]? Is there a main effect for A?

18.6 Student: No.

The student's answer was incorrect (there *is* a main effect for A), even though the tutor had provided a supposedly helpful method for determining the answer.

Does this mean that tutors should always avoid the use of metaphors? Example 19, drawn from a session on Type I and Type II errors in the research methods tutoring corpus, demonstrates the utility of a conceptual metaphor:

Example 19:

19.1 Tutor: You don't see it, but it's there [pointing to a decision matrix in the text]. Here you see it, and it's not there. . . . The way I, I'll tell you the way I remember it. A Type I error is like um . . . you're hallucinating. . . .

19.2 Student: Um hum.

19.3 Tutor: . . . you see something that's not there. Type II error is like you're blind. It's there, but you don't see it, and that's the way I always remember these [laughs].
19.4 Student: Oh, so let me write these down, hallucination and blindness.

The tutor and student spent the next several turns working through an example to determine whether a Type I or a Type II error was present. It is interesting to point out that, later in this discussion, the following exchange occurred:

Example 19 (continued):
19.19 Tutor: Um, does that make it a little clearer?
19.20 Student: Yes.
19.21 Tutor: OK. . . .
19.22 Student: . . . because you really need something like that . . . analogies, yeah.

Clearly, some metaphors work better than others. Tutors must judiciously choose those metaphors that are clear, helpful, and accurate and avoid metaphors that do not satisfy these criteria.

Tutors and students may elect to introduce a new concept by stating it as a general rule. This has the beneficial effect of minimizing the imposition of the new information on the hearer. In other words, instead of saying, "Do this," the speaker says, "Most people do this." Example 20, from a research methods session on interactions, illustrates the student offering a contribution indirectly. The tutor had forgotten an important principle, in this case, the number of intervals on a Likert scale.

Example 20:
20.1 Tutor: And our level of psychotic. Let's say we have a 10-point scale for that.
20.2 Student: OK.
20.3 Tutor: So . . .
20.4 Student: What happened to the magic six?! [laughs]
20.5 Tutor: Oh, OK.
20.6 Student: [Name of instructor's] magic six!
20.7 Tutor: The magic six. OK, I forgot the magic six.
20.8 Student: Great.
20.9 Tutor: So, let's say we have a 6-point scale.
20.10 Student: OK.

By invoking the name of the instructor, the student provided a face-saving rationale for the use of a 6-point scale. Instead of directly questioning the tutor's selection of a 10-point scale, the student was able to express her opinion indirectly in the form of a general rule.

It should be clear that Step 4 is a collaborative process: The tutor and student work together to construct an answer. In addition, violations of the conversational rules and politeness strategies occur. Some violations are made by the student, and some are made by the tutor. As we have shown, some tutor violations may be desirable for effective tutoring.

Step 5: Tutor Assesses Student's Understanding of the Answer

In this step, the tutor could encourage the student to identify any specific problems that still remain at this stage in the tutoring process. Instead, tutors typically ask very general, yes–no questions that do not tap the student's misconceptions. For example, tutors typically ask:

Example 21:
21.1 Tutor: And then you're OK. Are you with me?

or

Example 22:
22.1 Tutor: . . . so you understand that, right?

In other words, the tutors are adhering to Grice's (1975) maxim of quantity even when they should not. That is, the tutors make global statements about the student's comprehension instead of asking questions regarding specific issues that have already been addressed. This problem is very common in the tutoring corpus and suggests an overreliance on students' self-assessment. In normal conversation, it is assumed that individuals are accurate in assessing their own knowledge (e.g., what they ate for lunch and to whom they are married), and listeners do not challenge these reports. In tutoring, however, the student is operating on the frontier of his or her knowledge, and self-assessments may be much less accurate. Therefore, the tutor should violate the maxim of quantity frequently.

A much better approach appears in Example 23, drawn from a session on constructing algebraic equations from word problems:

Example 23:
23.1 Tutor: Do you have any problem with these kinds of word problems [referring to a section in the book]? Where they say—
23.2 Student: [interrupts] Ah, not really.
23.3 Tutor: You don't? You don't? You don't have any trouble with that?
23.4 Student: No.

23.5 Tutor: Let's just do one of them. Um, Dan earned $56, which was twice more than what Jim earned. Now you're supposed to write an equation.
23.6 Student: Ah, I can't write the equations.

The tutor discovered the student's deficits only by repeatedly querying the student. Even this is insufficient; it was not until the student was challenged to perform that the deficit was made manifest. Example 23 includes many violations of the politeness strategies (avoid disagreement, be optimistic, and minimize imposition), but these violations were necessary to expose the student's deficits.

Sometimes a lack of common ground between the student and tutor may adversely affect the tutoring interaction. Specifically, the tutor may erroneously assume that the student possesses information that the student does not. This presupposition of common ground can be seen clearly in Example 24, drawn from an algebra session on word problems:

Example 24:
24.1 Tutor: Now that you've worked them, let's try number 14. It's a little different one but, ah, it's a lot like the other two. A bottle of Produce Time apple juice contains 64 ounces and costs 99 cents. Farm Fresh juice, available in bottles that contain one gallon, for one eighty-eight [$1.88] each; ah, which is the better buy?
24.2 Student: How many ounces, um, are in a gallon?
24.3 Tutor: Ounces per gallon, good question. You haven't had these in tables before....

In this example, the tutor presupposed that the student knew how many ounces are in a gallon. The student did not know, however, and asked the tutor for the information. It is more typical, however, for a student to hide his or her knowledge deficits from the tutor, leading to a breakdown in effective tutoring. Tutors, therefore, should exercise caution when they make presuppositions about what the tutor and student both know.

Even when a concept or idea has been explicitly mentioned in a tutoring session, the tutor cannot be certain that the student both understands and remembers the information. This can be contrasted with normal conversation in which contributions by both participants are assumed to be in the common ground and completely understood (Clark & Schaefer, 1989). Tutors, therefore, must be careful not to carry over this conversational assumption into tutoring sessions.

Tutors occasionally prepare students for a difficult problem by being pessimistic about whether the student can solve the problem. Example 25, drawn from a session on variables, illustrates this:

Example 25:
25.1 Tutor: OK, this one is probably a little harder than the first one.
25.2 Student: Yeah [laughs].

This method may have unwanted consequences. For example, it may lead the student to believe that failure is expected or even acceptable. This may lead to a diminution of effort on the part of the student.

CONCLUSIONS

We have suggested that tutoring can be examined by employing the strategies and maxims that characterize normal conversation. We are not claiming, however, that tutorial and conversational dialogue are the same. Discourse exists on a continuum, with interactive, normal conversation at one end and less interactive discourse (e.g., classroom lectures and speeches) at the other. Tutoring discourse clearly falls somewhere between these two extremes and probably resembles conversation more closely than classroom discourse. If this claim is true, it is not surprising that tutors rely on the implicit principles of ordinary conversation. As we have shown, Grice's (1975, 1978) conversational rules and P. Brown and Levinson's (1987) politeness strategies affect the tutoring process in positive and negative ways. Tutors should, therefore, be cognizant of these costs and benefits, because such awareness may enhance the overall effectiveness of tutoring.

Some steps of the tutoring process are more vulnerable to conversational missteps than others. During Step 1, for example, the tutor and student must negotiate a mutually comprehensible question that will be expanded during later steps. During Step 4, the tutor must elaborate on the student's answer and address the student's knowledge deficits. These two stages are crucial for the tutoring process, but there is a high probability that face-threatening acts may occur. As a result, we found many examples of Grice's conversational rules and P. Brown and Levinson's (1987) politeness strategies in these steps.

There may be functional differences in how these rules and strategies operate in the tutoring domain. Grice's (1975, 1978) analysis focuses on the content of utterances (e.g., quantity and quality), whereas P. Brown and Levinson's (1987) approach addresses the social and interpersonal dimensions of discourse. Future research may profitably explore how these rules and strategies interact, and such a fine-grained analysis may offer additional insights into this pedagogical process.

Domain Differences

We found that the research methods and algebra tutoring sessions differed from each other in several ways. In particular, the tutors in the research methods sessions seemed to rely on the politeness strategies more than did the algebra tutors. This finding cannot be attributed to differences in the status of the tutors across the tutoring domains, because both samples were examples of cross-age tutoring (Fitz-Gibbon, 1977). This difference also cannot be attributed to differences in the expertise of the tutors, because most of the algebra tutors and all

of the research methods tutors had never previously served as tutors in their respective subjects. This is, in fact, typical of the tutoring that occurs in most school settings (Cohen et al., 1982; Fitz-Gibbon, 1977).

Other differences between the research methods and algebra sessions may be responsible for the observed differences. For example, we cannot rule out the effect of age differences between the two groups of tutors. We suggest, however, that the differences in politeness strategy use may be attributable to the domains of the tutoring sessions. The research methods domain can be thought of as an *open-world* domain: The questions and answers do not exist within well-defined parameters. In contrast, the algebra domain can be considered a *closed-world* domain: The questions and answers are typically well-defined (Collins et al., 1975), and one can readily distinguish between good and bad answers. For example, it is far easier to elicit the answer to an algebra word problem than it is to elicit the drawbacks of a correlational design. The answers are different, as well, because there is no ambiguity associated with a numeric response: The student who says, "The answer is five," can receive clear-cut feedback. In contrast, the student who says, "It's less powerful," about a correlational design may not completely understand the underlying principles, and the tutor must follow up on the student's vague answer to ensure his or her understanding.

For these reasons, the tutors (and students) in open-world domains may rely heavily on the conversational rules and politeness strategies that facilitate normal conversation. As we have shown, however, these rules and strategies can create pedagogical problems, even when they are employed to expedite normal social interaction.

Establishing Ground Rules in Tutoring

As many researchers have demonstrated, students must have prerequisite information in order to profit from an educational experience (Gagné, 1977; VanLehn, 1987). For example, students require relevant background knowledge in order to comprehend textbook information (McKeown, Beck, Sinatra, & Loxterman, 1992). In a similar way, students must have an understanding of the tutoring process before a tutoring session begins. Specifically, we believe that tutors and students should establish conversational ground rules prior to the tutoring interaction. The student should be made aware that the tutor will use negative feedback, that the "normal" rules of conversation may be violated (e.g., the tutor may say, "No, your answer is wrong"), and that the student is expected to take a very active role in the tutoring process. In this way, knowledge deficits may be more easily exposed and more easily corrected. The tutoring process should be more efficient.

As mentioned earlier, most of the effort in Step 4 of the tutorial dialogue frame (student and tutor collaboratively improve the quality of the answer) is contributed by the tutor. We suggest that tutors implement strategies that encour-

age the active participation of the student rather than the tutor supplying most of the information. A truly collaborative exchange during Step 4 allows for more active involvement on the part of the student, as well as more opportunities for the tutor to identify the student's knowledge deficits. The reason these activities do not frequently occur during Step 4 may be the overreliance, by both tutor and student, on the conversational rules and politeness strategies of normal discourse.

This overreliance on the rules and strategies of normal conversation also creates a problem in Step 5, in which the tutor assesses the student's understanding. Because this assessment can be very face threatening for students, tutors often assume that, if the material has been covered during the tutoring session, it has been understood by the student. We suggest that tutors actively probe the students in order to expose knowledge deficits. If the tutors explicitly inform the students that this will occur, the students will regard this assessment as less face threatening.

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