

Rex and McEachen (1999) found similar interaction patterns in their study of a high school English literature class. Earlier studies of the same class by Rex and her colleagues (Rex, 1997; Rex, Green, & Dixon, 1997) had revealed that the English teacher interacted with the students in a way that was quite similar to the teachers marked as effective in Nystrand's study. The attempt in the 1999 study was to move beyond describing the teacher-student interactions to documenting the strategies used by the teacher to build an effective community of learners. Analysis of the classroom interactions revealed that the dominant way of talking about the class texts was what the teacher referred to as 'making a case.' This involved posing hypotheses about why the students considered something they found in the text boring, odd, or confusing, and then supporting the claims, linking them to specific pieces of evidence. During the beginning weeks of the academic year, the teacher assumed most of the responsibility for helping the students make a claim by asking leading questions and directing student responses. Like Wells, the researchers found that on the surface the early exchanges appeared to be standard IREs. However, closer inspection revealed that in addition to brief affirmations of student responses, the teacher elaborated on them or further probed students' understandings by asking additional questions. Moreover, when student interpretations were considered inappropriate or unwarranted, the teacher did not overtly challenge or evaluate them with statements like "That's not right." Rather, he acknowledged the students' contributions, and then offered his own interpretation along with evidence from the text. As he did, he directed his talk to all the students, rather than to the one student who had responded, and in so doing, helped to build an inclusive community of learning.

As the academic year unfolded, the teacher handed over his role as leader in 'making a case' to the students. Not only were the students encouraged to question and probe each other's interpretations, but they were also encouraged to question the teacher's readings of specific passages. From end-of-term survey assessments, Rex and McEachen found that nearly all of the students believed they had learned a great deal from this teacher's class and identified the class discussions as "the most valuable arena of their learning" (Rex & McEachen, 1999, p. 76).

The benefits of the IRF for supporting and promoting student interaction have been confirmed in recent studies of two university English-as-a-second-language classrooms (Boxer & Cortés-Conde, 2000; Boyd & Maloof, 2000). It was found that teachers who were effective in stimulating student involvement repeated or recast student utterances in such a way as to affirm their contributions and make them available to the full class for their consideration. In this way, individual student utterances were linked together and woven into the larger classroom discourse. This, in turn, helped to maintain topical coherence by building a collective knowledge base upon which all students could draw for subsequent contributions. The authors of both studies argued that through

students' extended participation in their classroom interactions, student appropriation of new words and ideas was facilitated.

These findings have been corroborated in studies of foreign language classrooms as well. In his examination of the interaction of nine English language classrooms in Brazil, for example, Consolo (2000) found that in classrooms characterized by ample student participation, teachers more often followed up on student responses in ways that validated student contributions and helped to create topical connections among them. Likewise, Duff's (2000) study of a high school English immersion classroom in Hungary revealed that, in interactions promoting student participation, the teacher often followed up student responses by repeating or paraphrasing their contributions, and offering them back to the class for further discussion. Such follow-ups, Duff argues, served as an important means of encouraging learners' attempts to express their own thoughts and opinions on the topics, validate the concepts and ideas initiated by students, and draw their attention to key concepts or linguistic forms.

Sullivan's (2000) examination of a university English-as-a-foreign-language classroom in Vietnam led to similar conclusions. Here Sullivan revealed how the teacher nurtured student participation in the building of a shared base of knowledge through his frequent affirmations, elaborations, and other kinds of follow-ups to student contributions. In addition to the cognitive benefits of such interaction, Sullivan argued that such building of extended networks of talk among the class members also lent a humorous, light-hearted side to learning in that both the teacher and students could use their collectively constructed knowledge to play on each other's words and ideas. This use of humor heightened the students' enjoyment of their classroom interactions and motivated them to continue participation. This, in turn, provided them with extensive opportunities not only to become more affiliated with the subject but to build on and sustain their interpersonal relationships as a community of English language learners as well. The following excerpt illustrates a round of playful, collaborative repartee engaged in by the teacher and learners in the study. According to Sullivan, the researcher unknowingly triggered the game by commenting that the question asked by the teacher is a "major" one (line 3). This is picked up by the teacher with the words "very big," and followed by students who expand it to "huge," "gigantic," "enormous," and finally, from the teacher, "titanic."

1. Teacher: Uh huh? Right. Now 14. "What problems do you think a developing country may face in its social and economic development?"
2. Students: ((*Several repeat the question in Vietnamese*)).
3. Researcher: A major question. h-h-h-h.
4. Teacher: Yes. A very big question uh
5. Student 1: A huge question.

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| 6. | Teacher: | Huge question. OK. |
| 7. | Students: | [It's very big] |
| 8. | Students: | [A gigantic question] |
| 9. | Teacher: | ((<i>laugh</i>)) A gigantic question. OK. |
| 10. | Student: | () |
| 11. | Teacher: | OK. |
| 12. | Student 2: | An enormous question |
| 13. | Teacher: | A titanic question. OK. |

Such play, Sullivan argued, not only helped to draw learners' attention to the language itself, but also helped to create a meaningful and motivating context for language use. This, in turn, enhanced the learners' interest in continuing to use the target language in their interactions, helping them reinforce and expand their vocabulary knowledge as they did. These findings on the value of interactional playfulness corroborate those by Wong Fillmore, Ammon, McLaughlin, and Ammon (1985) who, in their examination of successful language-learning lessons for children learning English as a second language, noted the use of such playfulness and its role in bringing learners' attention to forms. They state, "The final characteristic of the language used in successful lessons is that of richness and occasional playfulness as well . . . the teachers in successful classes tended to use language in ways that called attention to the language itself" (p. 42).

In all of the studies previously noted, a motivating learning environment was characterized by teacher contributions that encouraged students to participate by asking them to elaborate on their responses, comment on the responses of others, and propose topics for discussion. Moreover, the classroom was characterized by teacher actions that treated student responses as valuable and legitimate regardless of whether they were 'right,' and attempted to understand the learners' expressed thoughts from the learners' particular perspectives rather than impose their own views on what the students were attempting to say. In the questions they posed to students, their responses to student-posed questions and comments, and their own reflections and musing on the topics, the teachers in these different studies not only maintained a cognitively and socially rich interactional environment and provided models of appropriate academic and social discourse for the students. Importantly, regardless of the level of students' linguistic and intellectual abilities, the issue being addressed, or, as shown in Consolo's (2000) study, the native speaker status of the teacher, in all cases classroom interactions promoting student involvement in intellectually engaging ways were topically coherent, cognitively and linguistically complex, and meaningful to the learners.

Links Between Discourse Patterns and Epistemologies

Recent efforts to probe more deeply the connections between patterns of classroom interaction and learning have turned to examining the links between interaction and teacher beliefs. Earlier research argued that the use of particular patterns of teacher-student talk reflected certain pedagogical epistemologies (e.g., Barnes, 1992; Cazden, 1988; Gutierrez, 1994; Wells, 1993). Wells (1993), for example, maintained that the choices teachers make about the kinds of interactional patterns they use in their classrooms are linked to their pedagogical beliefs. Teachers who view themselves as leaders of communities of learners, and who view students as active agents in the learning process and thus take student involvement seriously, are more likely to use follow-ups to student responses that promote intellectually challenging interactions and actively engage students in them. Conversely, teachers who perceive themselves as authorities and transmitters of knowledge, and students as passive recipients of their knowledge, are more likely to use the more constraining IRE pattern of interaction. Few studies, however, have actually provided empirical evidence linking the discursive conditions of language classrooms to teachers' epistemologies.

The recent study by Johnston, Woodside-Jiron, and Day (2000) is a notable exception in that a primary focus of the study was on tracing the empirical connections among the discourse patterns found in fourth-grade language arts classrooms and teachers' epistemological stances. The authors based their analysis on data gathered from classrooms whose teachers were considered capable by their peers and supervisors. The means used to collect data included classroom observations, field notes, audio- and video-tapings, and both teacher and student interviews. Their findings provide empirical support for earlier assertions on the links between the kinds of interactions teachers promote in their classrooms and their beliefs about teaching and learning. However, they also found that while some classrooms maintained a dominant pattern of discourse and that these discourse patterns were consistently linked to one particular stance, many more classrooms reflected a mixture of patterns and teacher beliefs. These findings raise interesting questions for future research on the developmental consequences arising from classrooms typified by an assortment of patterns and epistemologies rather than one dominant paradigm.

Conclusions and Implications for Future Research

Several conclusions about classroom interaction and language learning can be drawn from this review. First, we can state with certainty that at least two versions of the triadic dialogue are used with great frequency in teacher-whole group instruction and that the versions give rise to qualitatively different language learning environments. The versions are similar in that they each contain teacher initiations and student responses to these initiations. Where they vary is in follow-

ups to student contributions. In one version, the teacher most often assesses the quality of student responses with short evaluative responses such as “Good,” or “Well done.” The three-part interactions usually occur between the teacher and individual students and few attempts are made to extend the sequence, unless the student response is inaccurate or in some way inappropriate. In that case, the teacher usually seeks a response to her question from another student. Consistent use of this pattern provides very limited opportunities for student participation in learning.

In the second version, the teacher follow-ups include a range of functions. Evaluations of student responses still take place, since they can provide opportunities for teachers to check students’ understandings and make adjustments to the instructional activities as needed. However, they are not the sole or primary follow-up. Rather, the repertoire of teacher contributions include response affirmations, reformulations, comments, and requests for justification, clarification, or elaboration. Together these serve to promote student involvement, highlight key concepts and ideas, build a shared base of knowledge, and, more generally, evoke feelings of inclusivity. As we have seen, the use of a full range of patterns is essential to creating effective language learning communities. This is so not just in first language classrooms, but in second and foreign language classrooms as well. Moreover, these patterns signal effective teaching in a variety of grades, from elementary to university levels, and a host of national and international contexts, including the United States, Canada, Brazil, Vietnam, and Hungary. Future research can add to our understanding by continuing to look more closely at the linguistic resources effective teachers use to create stimulating learning environments. In addition to the frameworks used in many of the studies reviewed here, the analytic frameworks of Nassaji and Wells (2000), Hellerman, Cole and Zuengler (2001), and Rojas-Drummond (2000) could prove useful in future explorations of teacher-student interaction in language classrooms.

A second conclusion that can be drawn has to do with the underlying epistemologies connected to the patterns of interaction. Based on the studies reviewed here, it is reasonably clear that consistent use of each version of the triadic dialogue is tied to a particular epistemological stance. Teachers who consistently use the IRE view teaching as a process of transmission. They see themselves as institutional authorities whose primary role is to pass down information to students, whose sole responsibility is to receive and internalize the information, and, when called upon, to extract and accurately display it. On the other hand, teachers who use a fuller range of follow-up moves in their interactions with students, incorporating student contributions into the ongoing dialogue, holding students responsible for monitoring and expanding on their own and each other’s contributions, and in other ways sharing the responsibility for learning, lead to higher levels of student achievement. Teachers who consistently employ such actions have more of an inquiry-based understanding of learning, which

values the activities of exploration, hypothesis testing, and problem-solving. They see both themselves and their students as responsible partners in what is considered a fundamentally jointly constructed social process.

Given these connections between actions and beliefs, the concern becomes how to bring about awareness and change in teacher practices and beliefs. The long-term action research project on which Wells (1999; Nassaji & Wells, 2000) and his colleagues have collaborated offers one possible means for doing so. We also need to look at the larger sociocultural contexts of classrooms to see how teacher beliefs and practices serve to reinforce or undermine those larger activities, values, and beliefs embedded in them. Here, the framework for conducting a critical classroom discourse analysis offered by Kumaravadivelu (1999) may be helpful in conceptualizing future research studies.

A final conclusion has to do with language learning and interaction. While many studies have asserted links between them, only recently have researchers begun gathering empirical evidence for these assertions. Clearly, a more complete understanding of the developmental consequences arising from the discursive practices of a classroom requires following the paths along which the varied patterns of interaction lead. This, in turn, requires more longitudinal studies, and more studies that include a full range of data sources (see Ford, Zuengler, & Fassnacht, 1998) in addition to transcriptions of interaction and that incorporate both qualitative and quantitative methods of analysis, as, for example, Nassaji and Wells (2000), Nystrand and Gamoran (1997), and Rojas-Drummond (2000) have done in their research. Incorporating methodologies that make use of the latest technologies for data collection and analysis may also help. Using digital tools for gathering classroom discourse data, for example, can provide instant links to other data sources, and support the electronic sharing and analysis of data across space and time. The use of such tools can transform the representation of our findings. Visually representing the path of a language learner's development through representative video clips, for example, can reveal the remarkable complexity of the process of language development in a way that pages of written text cannot. Moreover, the rich empirical base of findings engendered by such electronic collaborations not only will enhance our theoretical understandings of language learning. Such endeavors will also help advance our understanding of and ability to sustain effective language learning environments.

ANNOTATED BIBLIOGRAPHY

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