CLASSROOM INTERACTION AND LANGUAGE LEARNING

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Abstract
The field of second and foreign language learning has long been interested in the role that interaction plays in language learning. Recently, research on interaction and language learning has begun to move toward a sociocultural perspective, which incorporates theoretical insights and findings from disciplines traditionally considered outside the field’s main purview. The aim of this paper is to report on some of these most recent undertakings in the field. After first providing a brief overview of the more traditional perspective of the role of interaction in language learning, several recent studies on teacher-student interaction and second and foreign language learning that take a sociocultural perspective are reviewed. The article concludes with a discussion on implications for language classrooms and suggestions for future research.

Keywords: interaction; second/foreign language learning; socio-cultural perspective.

Resumo
Há muito tempo, a área de aprendizagem de uma segunda língua ou língua estrangeira interessa-se pelo papel que a interação possui no aprendizado de língua. Recentemente, pesquisas sobre interação e aprendizado de línguas estão se voltando para uma perspectiva sociocultural, que incorpora percepções teóricas e descobertas de disciplinas tradicionalmente consideradas fora dos limites da área. O objetivo deste trabalho é informar sobre as mais recentes pesquisas nessa área. Após fornecer uma breve visão geral da mais tradicional
In the field of second and foreign language learning, interaction has long been considered to play an important role. Studies taking a more traditional, formalist perspective on language and learning have focused on the role that interaction plays in helping learners to assimilate and internalize knowledge of linguistic forms in the target language. More recently, a group of scholars concerned with interaction and additional language learning, or the learning of languages other than the mother tongue, has begun to move away from this more traditional perspective and into areas outside of what has generally been considered the main focus of the applied linguistics field. Taking more of a sociocultural perspective on language and learning, this research is concerned with documenting the links between student participation in particular kinds of classroom interaction and their communicative development in the target language.

The aim of this paper is to report on some of these most recent undertakings in research on second and foreign language learning. After first providing a brief overview of the more traditional perspective, I review several recent studies on teacher-student interaction and second and foreign language learning from a sociocultural perspective. I conclude with a short discussion on implications for language classrooms and suggestions for future research.
Much traditional research on interaction has been concerned with investigating ways to help learners assimilate and internalize knowledge of linguistic structures in the target language. Stemming from Krashen’s (1980, 1982, 1985) early assertions on the importance of comprehensible input to language learning, this research has taken three related directions: input-oriented research, negotiation-oriented research, and output-oriented research.

The first strand, input-oriented research, has been concerned primarily with the question of how input is made comprehensible. Of specific interest in early studies was the role that features found in teacher talk such as corrective feedback, error correction, and use of questions played in reducing the syntactic complexity of input (Chaudron, 1988). More recently, research on input has incorporated a concern with finding ways to enhance learners’ noticing of linguistic forms to be learned in the input. These studies are based on the premise that simple exposure to comprehensible input is not sufficient. In order for input to be comprehensible, it must become intake, and for that to happen, learners must, at the very least, take notice of the forms to be acquired (Schmidt, 1994).

Addressing the question of how to create input that helps learners to take notice of the forms to be acquired, investigations here have examined the role that special genres such as ‘input-enhanced’ and ‘form-focused’ instructional talk play in the raising of students’ consciousness about the syntactic aspects of the target language. These special genres involve pedagogical interventions such as increasing the saliency of the forms to be learned in the teacher’s talk to enhance the possibility that students will notice them. They also include attempts to highlight the particular forms on which students are to focus through, for example, corrective feedback, direct instruction and consciousness-raising tasks (e.g., Ellis, 1994; Long, 1981; Long, Inagaki, & Ortega,
The second direction in traditional research on interaction has focused on the role of negotiated interaction. This research is based on the same assumptions as input-based research: comprehensible input is necessary for language acquisition and the process of noticing facilitates learner acquisition of linguistic forms. A further assumption presumes that interaction between learners, and between learners and native speaking peers, can play as significant a role in making input comprehensible as interaction between teachers and learners.

Research on negotiated interaction has generally been concerned with documenting conditions fostering the emergence of such interaction. Findings reveal that the most useful interactions take place in task-based activities that compel learners to negotiate with their interlocutors to complete the task. In their negotiations, the modifications that interlocutors make to their talk result in input that is more attuned to the learners’ levels of competence. Such modifications, in turn, help learners to take notice of gaps in their knowledge of linguistic structures. Such noticing, it is concluded, will help facilitate the learners’ eventual acquisition of these new syntactic forms (e.g., Crookes & Gass, 1993; Gass & Varonis, 1985; Pica, Kanagy & Falodun, 1993; Yule, Powers, & Macdonald, 1992; and see Pica, 1994, for a review of this research).

The focus of the third strand of traditional research on interaction and language learning is on the role of learner output. Here, concern is not with the modifications made to input or with task conditions fostering modification. Rather, it is with examining particular task types for the role they play in encouraging learners themselves to produce particular forms of language that they have not yet acquired fully. This strand of research shares the assumption that both comprehensible input and noticing of the forms to be learned are necessary to language acquisition. However, it differs from the other two in that it assigns a crucial role to language production.
In an overview of studies concerned with student-generated output, Swain (1993) proposed that pushing students to produce linguistic forms they have not yet mastered can facilitate student learning of these forms in at least three ways. First, it may help students to notice or become aware of a gap between what they know and what they do not. The noticing, in turn, can trigger the acquisition process. Second, learner output can provide opportunities for learners to formulate and test hypotheses as they try new forms to meet their communicative needs. Finally, learner production of language provides opportunities for them to actively reflect on and ultimately come to understand theirs and their interlocutors’ use of language forms. Current research (e.g., Kowal & Swain, 1994; Polio & Gass, 1997; Swain, 1985, 1995; Swain & Lapkin, 1996) on output is concerned not only with uncovering the optimal task conditions that persuade learners to produce language. It is also concerned with documenting the effects of pushing learners to produce and take notice of language forms that are deemed to be especially difficult to learn, developmentally late-acquired or rarely found in typical classroom tasks.

While the various studies reviewed here have taken somewhat different routes in examining the role of interaction, they share some fundamental assumptions about the nature of language and learning. Embodied in this research is a view of language as discrete, stable, bounded sets of linguistic systems. Acquisition of these systems is assumed to be an individually-based, mental process whereby L2 forms and structures are assimilated into pre-existing mental structures and internalized. While analytic attention is on interaction, the concern is not with how learners learn to communicate with others. That is, as Gass (1998:84) notes, the focus of analytic attention is on “the language used and not on the act of communication” (emphasis in the original). While the specific goals of research carried out from this perspective vary, their general concern is with finding the most effective way to facilitate learners’ internal assimilation of new systemic knowledge.
3. A Sociocultural Perspective on Interaction and Language Learning

Voicing concern with this narrow construction of language and learning, a group of scholars concerned with interaction and additional language learning has recently begun exploring other fields (Block, 1996; Firth & Wagner, 1997, 1998; Hall, 1995a, 1997; Lantolf, 1995; Lantolf & Appel, 1994). These explorations have led to assumptions on the nature of language and learning that differ fairly substantially from those embodied in the more traditional approach to research on interaction and language learning.

Drawing on theoretical insights into the nature language from linguistic anthropology and linguistic philosophy (e.g., Bakhtin, 1981, 1986; Hymes, 1972, 1974; Wittgenstein, 1963), cultural psychology (e.g., Cole, 1996; Leontiev, 1981; Scribner, 1997; Vygotsky, 1978, 1986; Wertsch, 1991, 1998), and cross-cultural studies of first language development (e.g., Berman & Slobin, 1994; Halliday, 1975, 1978; Ochs, 1988; Schieffelin & Ochs, 1986), current understandings consider the essence of language to be social action, something that exists in use, in communication. In this view, language is not comprised of internal structures located in the individual. Rather, it is considered to be fundamentally social, comprised of linguistic resources whose meanings are both embodied in and constitutive of our everyday communicative activities and practices.

Likewise, language learning is considered not the internal assimilation of structural components of language systems. Rather, it is a fundamentally social process, initiating in our social worlds. Constituting these worlds is a heterogeneous mix of goal-directed, regularly occurring, communicative activities and events comprised of various communicative means for their accomplishment. Through repeated participation in these activities with more capable members, we acquire the linguistic, sociocultural and other knowledge and competencies considered essential to full participation. That is, we learn
not merely the grammatical, lexical and other components of our language. We also learn how to take actions with our words. In the process of learning to become full, participating members in our activities, we not only transform the specific linguistic symbols and other means for realizing these activities into individual knowledge and abilities. We also acquire the communicative intentions and specific perspectives on the world that are embedded in them (Tomasello, 1999).

In this sociocultural perspective of learning, the essence of mind is considered to be inseparable from the varied worlds it inhabits. That is, the communicative contexts in which we participate, along with the particular linguistic means that are needed to communicate with others in these contexts, do not simply enhance the development of universal mental structures that already exist. Rather, they fundamentally shape and transform them (Leontiev, 1981; Vygotsky, 1981). The more opportunities for taking part in our activities, the more fully we develop the linguistic, social and cognitive knowledge and skills needed for competent engagement.

Because schools are important sociocultural contexts, they, and more particularly their classrooms, are considered fundamental sites of learning. Because most learning opportunities are accomplished through face-to-face interaction, its role is considered especially consequential to the creation of effectual learning environments and ultimately to the shaping of individual learners’ development. For it is in the discourse created in the interaction of these classrooms that teachers and students together develop particular understandings of what constitutes language and language learning. In the next section, we look more closely at some of the more recent research on the role of classroom interaction in language learning that is based on this sociocultural perspective.

### 3.1 Classroom Interaction

Interaction between teachers and students in classrooms is one of the primary means by which learning is accomplished in classrooms.
In language classrooms, interaction takes on an especially significant role in that it is both the medium through which learning is realized and an object of pedagogical attention. Early research interested in interaction and learning from a sociocultural perspective focused on describing the patterns typical of classroom interaction (Barnes, 1992; Cazden, 1988; Mehan, 1979). One of the earliest descriptions is provided in Sinclair and Coulthard’s (1975) study. Drawing on Halliday’s (1975) theory of language, Sinclair and Coulthard described what they found to be the basic unit of classroom interaction, a three-part sequential IRE exchange. This exchange involves the teacher, in the role of expert, eliciting information (I) from individual students in order to ascertain whether each knows the material. The teacher does this by asking a known-answer question to which the student is expected to provide a brief response (R). The teacher then evaluates the student’s response (E) with such typical phrases as “Good,” “That’s right,” or “No, that’s not right.” After completing a sequence with one student, the teacher typically moves into another round by asking either a follow-up question of the same student or the same or a related question of another student. Much subsequent research on classroom interaction has revealed the ubiquity of the three-part IRE pattern in western schooling, from kindergarten to the university (e.g., Barnes, 1992; Cazden, 1988; Gutierrez, 1994; Green & Dixon, 1993; Mehan, 1979; Nystrand, Gamoran, Kachur, & Pendergast, 1997; Smagorinsky & Fly, 1993).

In addition to describing the typical patterns of classroom discourse, this body of research has sought to draw connections between the IRE pattern of language use and language development. Cazden (1988), for example, in a study of the discourse of several elementary language arts classrooms, revealed how the use of the IRE often facilitated teacher control of the interaction rather than student learning of the content of the lesson. Similarly, Barnes (1992) found that the frequent use of the IRE pattern of interaction did not allow for complex ways of communicating between the teacher and students. Rather, it was the teacher who decided who would participate, when students
could take a turn, and how much they could contribute. Barnes concluded that extended use of the IRE severely limits students' opportunities to talk through their understandings and try out their ideas in relation to the topic-at-hand, and, more generally, to become more proficient in the use of intellectually and practically complex language.

In perhaps the most comprehensive study on classroom interaction and learning to date, Nystrand et al. (1997) found that in their study of 112 eighth and ninth grade language arts and English classrooms in the United States, the use of the IRE pattern of interaction was negatively correlated with learning. Students whose classroom interaction was almost exclusively limited to the IRE pattern were less able to recall and understand the topical content than were the students who were involved in more complex patterns of interaction. Moreover, they found that the use of the IRE sequence of interaction was more prevalent in lower-track classes. This led, the authors argued, to significant inequalities in student opportunities to develop intellectually complex knowledge and skills.

Although most of the studies on classroom interaction have occurred in first language classrooms, a few recent studies have confirmed the ubiquity of the IRE pattern in second and foreign language classrooms and documented its constraints on learning as well. For example, in my own investigations of a high school Spanish language classroom (Hall, 1995), I found that, in her interactions with the students, the teacher most often used the IRE pattern of interaction. The teacher typically initiated the sequence with a display question, and her responses to students, the third part of the third-part sequence, were almost always an evaluation of the grammatical correctness of their responses to the initial question. I further found that the pervasive use of this pattern of interaction over the course of an academic semester led to mechanical, topically disjointed talk and limited students' use of the Spanish language to recalling, listing, and labeling. I concluded that extended student participation in exchanges of this type was unlikely to lead to learners' development of cognitively, linguistically
or socially complex communicative competence in Spanish. Excerpt 1 is an example of a typical pattern of interaction found in this classroom.

Excerpt 1

Teacher: ¿Te gusta la música?

Student 1: No me gusta.

Teacher: No me gusta.

Student 1: No me gusta.

Teacher: No me gusta la música. [to another student] ¿Te gusta la música?

Lin (1999a, 1999b, 2000) reported similar findings in her study of junior form English language classrooms in Hong Kong. Moreover, like Nystrand et al. (1997), Lin found that the IRE pattern of interaction most often occurred in classrooms comprised primarily of students from socio-economically disadvantaged backgrounds. In addition to limiting learning opportunities for these learners of English, such use of the IRE pattern of interaction, Lin argued, pushed them “away from any possibility of developing an interest in English as a language and culture that they can appropriate for their own communicative and sociocultural purposes” (2000, p. 75).

3.1.1 IRE vs IRF

In an attempt to uncover more specific links between classroom interaction and learning, Wells (1993) decided to look more closely at the three-part IRE pattern of interaction. His data came mainly from a number of science classrooms with teachers he considered to be expert. While his observations of the interaction in these classrooms revealed enthusiastic, extended student participation in class discussions, his
initial analysis revealed what looked to be a sizable number of IRE sequences. Upon closer inspection, however, he found subtle changes to the standard pattern, primarily in the third part. More specifically, he found that while the teachers often asked questions of students, they did not typically close down the sequence with a narrow evaluation of the student responses. Rather, they more often followed up on them, asking students to elaborate or clarify, and in other ways treated student responses as valuable contributions to the ongoing discussion.

Wells concluded that when the third part of the IR sequence contained a teacher evaluation (E) of a student response, the pattern severely constrained students’ learning opportunities. However, if, in the third part, the teacher followed up on student responses (F) by asking them to expand on their thinking, clarify their opinions, comment on others’ contributions, or make connections to their own experiences, student opportunities for learning through interaction were enhanced. Thus, he concluded that the typical 3-part interaction exchange found in classrooms is neither entirely good nor entirely bad. Instead, it depends on the kind of follow-ups teachers contribute in response to student contributions.

Nassaji and Wells (2000) provide a more comprehensive discussion of various options for the follow-up move in the three-part exchange. Their data come from a six-year research project involving nine elementary and middle school teachers and three university researchers. Their specific focus in the project was on teacher contributions in the third part of the three-part sequence. They found that, just as they suspected, the kind of contribution made by the teacher in the third part of the sequences shaped the direction of subsequent talk. Teacher contributions that evaluated student responses rather than encouraged them tended to suppress student participation. Conversely, teacher contributions that invited students to expand upon or qualify their initial responses opened the door to further discussion, and provided more opportunities for learning.
3.1.2 Classroom interaction that promotes second and foreign language learning

The value of the IRF for promoting student learning has been confirmed in studies of second language classrooms. In their respective studies of university-level English-as-a-second-language classrooms, for example, Boyd and Maloof (2000) and Boxer and Cortes-Conde (2000) found that teachers who were effective in stimulating cognitively and communicatively rich student participation in classroom interaction followed up on student responses in such a way as to affirm their contributions and make them available to the full class for their consideration. In so doing, the authors argue, the teachers were able to create rich communicative environments upon which students could draw for subsequent contributions. They concluded that in addition to providing models of appropriate academic discourse, such facilitative moves assisted learners’ appropriation of new words and ideas.

Similar findings have emerged from 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 rich communicative environments and 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, Hall’s (1998) study of a high school Spanish-as-a-foreign-language classroom in the United States, and Sullivan’s (2000) study of a university-level English classroom in Vietnam revealed that in classrooms providing ample opportunities for student participation the teacher often followed up student responses with affirmations, elaborations, and other utterances that served to keep the discussion alive. They did so, for example, by repeating, revoicing, and reformulating student contributions to the interaction and offering them back to the larger discussion. Such follow ups, the authors of these studies argue, served to encourage learners’ attempts to express their own thoughts and opinions on the topics, to
validate the concepts and ideas initially raised by students, and to draw their attention to key concepts and linguistic means needed for competent participation.

These findings on the value of such interaction have also been found in studies of second and foreign language classrooms for elementary-aged learners (e.g., Damhuis, 2000; Hajer, 2000; Takahashi, Austin & Morimoto, 2000; Verplaetse, 2000). Findings from these studies reveal that student participation in cognitively and communicatively rich interactions was facilitated by teacher actions that encouraged students to elaborate on their responses, to comment on the responses of others, and to propose topics for discussion. In addition, facilitative teacher actions treated student contributions as valuable and legitimate regardless of whether they were ‘right.’ Similar to the authors noted above, these authors argue that in the kinds of 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 classrooms were able to create cognitively and communicatively rich learning environments into which learners could be appropriated. Importantly, regardless of the level of students’ linguistic and intellectual abilities, the issue being addressed, the grade level or, as shown in Consolo’s study, the native speaking status of the teacher, in all cases, second and foreign classroom interactions promoting student involvement in intellectually and communicatively engaging ways were topically coherent, cognitively and linguistically complex, and meaningful to the learners.

In addition to building cognitively and communicatively rich interactional contexts and facilitating the students’ appropriation of linguistic means for taking action in these contexts, findings from the various studies noted here demonstrate that teacher actions such as affirmations of student contributions through revoicings and reformulations served to promote the development of interpersonal bonds among learners. For example, Consolo (2000), Duff (2000), Sullivan (2000), and Verplaetse (2000) found that in addition to building
a collective base of knowledge, teacher revoicings of students' utterances helped learners to make interpersonal connections. In their interactions with their teachers and each other they became acquainted, made their perspectives known, showed support for others, and increased group solidarity. These interpersonal relationships, in turn, engendered positive emotional energy and an active interest in learning, created a safe space for students to participate in their communicative explorations, and ultimately provided them with opportunities to become more affiliated with each other and the language.

In summary, findings from studies taking a sociocultural perspective, not only on first language learning but on second and foreign language learning as well, reveal that creating conditions for language learning through classroom interaction depends, in large part, on the kinds of communicative environments teachers create in their classrooms through their interaction and on the means of assistance they provide to students to take part in these environments. Where teacher questions are cognitively and communicatively simple and where student contributions are limited to short responses to teacher questions, the classroom interaction is not likely to lead to active student involvement and complex communicative development. Rather, student participation will be limited to simple tasks such as recall, listing and labeling. However, where teacher questions and comments are probing and open-ended, and students are allowed to make significant contribution to the interactions by expanding on the talk in addition to responding to the teacher, effectual learning environments will be created. Such environments, in turn, will help shape individual learners' language development in ways that are meaningful and appropriate.

4. Pedagogical Implications and Suggestions for Future Research

There are several implications for second and foreign language classrooms that can be drawn from these studies on classroom
interaction. First, in order to promote language learning, we, as language teachers, must create motivating, and challenging interactions and assist learners’ involvement in the interactions from the beginning levels of instruction. We can do so by asking challenging questions, helping learners make connections between their questions and their own interests and background experiences, and weaving discursively coherent threads among the various student contributions. We also help create challenging contexts in our interactions by asking intellectually weighty questions and in other ways modeling academic discourse appropriate to the subject matter and the grade level of the learners, and guiding students into appropriating a full range of learner roles.

Second, in the learning opportunities we make available in our classrooms, we need to consider both the cognitive and affective dimensions. That is, in our interactions, regardless of whether the goal is academic or social, we must assist learners in appropriating the communicative means they need to participate in the interaction as well as the social strategies they need to build and extend interpersonal bonds.

Finally, as language teachers, we must understand the inextricable link between our classroom practices and student development and, in particular, the significant role we play in creating conditions that define both the substance and direction of student development, and use this knowledge to improve upon our own practices. One way we can engender such understanding is through our active involvement as researchers in our classrooms. Conducting investigations of our own interactional practices and reflecting on our findings will help us build a base of knowledge about the processes and outcomes of learning as they occur in our classrooms. The more knowledgeable and articulate we are about our goals as teachers and the more knowledgeable we are about the kinds of opportunities we make available to learners in our classroom talk, the more likely we will be able to create effective learning opportunities for them.

In terms of future research on second and foreign language learning, perhaps the most important need is for more empirical
research on the interactional patterns found in different learning contexts. Most current studies on second and foreign language learning from a sociocultural perspective come from university-level classrooms. Only a few studies to date have examined additional language learning as it occurs in elementary or secondary grades. This is unfortunate, as the early years of language learning are of special significance to learners’ development. For what language learners are exposed to here, in terms both of what counts as language and of the process of learning, sets the foundation upon which their subsequent development will be based. A full understanding of the role that classroom interaction plays in second and foreign language learning, then, requires our extensive investigation of the interaction found in these sites as well.

Second, given the significance of the affective dimension to language learning, it would behoove us to examine more closely the various communicative means by which interpersonal relationships are established in classroom interactions. How, for example, do we create and sustain rapport among individuals who come from varied backgrounds and/or who are reticent to participate? Also, it would be beneficial to examine how social relationships are enabled by new communications tools and resources for interacting, such as the internet, e-mail and videoconferences, and the role that these tools play in creating facilitative communicative environments for language learning.

A final suggestion has to do with the need for more longitudinal data on 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 fuller understanding of the intrinsic links between the kinds of communicative environments we are creating in our language classrooms through our interactions with students, and the developmental consequences they give rise to, requires first that we identify and characterize the constellations of activities, including the means for their accomplishment, that constitute our classroom interactions. Once we know what we are doing in our classrooms, we can follow the paths
along which the varied patterns of interaction lead. To do this, we need longitudinal studies, studies that follow the evolution of student participation as it is shaped in interaction, and more studies that include a full range of data sources, in addition to transcriptions of interaction, and that incorporate both qualitative and quantitative methods of analysis, as, for example, Nassaji and Wells (2000), and Nystrand et al. (1997) have done in their research. Once we determine the kinds of classroom interaction that comprise language classrooms and the developmental consequences arising from student participation in them, we will be able to give our attention to devising effective learning opportunities and to preparing language teachers to create interactional patterns that help shape learners' communicative development in the target language in ways that are considered appropriate to their social, academic and other needs.

References


