WILEY MLJ

Cooperative Learning, Collaborative Learning, and Interaction: Three Communicative Strands in the Language Classroom

REBECCA L. OXFORD
Education Dean's Office
University of Alabama
Carmichael Hall, Box 870231
Tuscaloosa, AL 35487–0231
Email: roxford@bamaed.ua.edu

This article describes important distinctions among three strands of communication in the foreign or second language (L2) classroom: *cooperative learning, collaborative learning,* and *interaction.* These three strands have different connotations, which, when understood, can help us better comprehend language learning and teaching. Cooperative learning refers to a particular set of classroom techniques that foster learner interdependence as a route to cognitive and social development. Collaborative learning has a "social constructivist" philosophical base, which views learning as construction of knowledge within a social context and which therefore encourages acculturation of individuals into a learning community. Interaction is the broadest of the three terms and refers to personal communication, which is facilitated by an understanding of four elements: language tasks, willingness to communicate, style differences, and group dynamics.

THE CONCEPTS OF COOPERATIVE LEARNing, collaborative learning, and interaction[1] are widely used in the teaching of mathematics, science, social studies, languages, and many other subjects.

Although common usage sometimes treats these concepts as though they were the same, each has developed special connotations and classroom applications in recent years. In the language teaching field, the differences (and similarities) among these three concepts are particularly important for teachers to understand. Cooperative learning, collaborative learning, and interaction are three "communicative strands" in the foreign or second language (L2) classroom.

The purpose of this article is to distinguish among these three strands, both within the gen-

eral field of education and as applied to L2 learning and teaching. Table 1 provides a comparative overview of the main aspects of these three strands.

Cooperative learning, as compared with *collaborative learning,* is considered more structured, more prescriptive to teachers about classroom techniques, more directive to students about how to work together in groups, and more targeted (at least it was in its beginnings) to the public school population than to postsecondary or adult education (Matthews, Cooper, Davidson, & Hawkes, 1995). "Cooperative learning researchers and theoreticians are educational or social psychologists or sociologists whose original work was intended for application at the K-12 level" (Matthews et al., p. 39). Cooperative learning is defined as "group learning activity organized so that learning is dependent on the socially structured exchange of information between learners in groups and in which each learner is held accountable for his or her own learning and is motivated to increase the learning of others" (Olsen

TABLE 1
Conceptual Comparisons among Cooperative Learning, Collaborative Learning, and Interaction

Aspects	Strand 1: Cooperative Learning	Strand 2: Collaborative Learning	Strand 3: Interaction
Purpose	Enhances cognitive and social skills via a set of known techniques	Acculturates learners into knowledge communities	Allows learners to communicate with others in numerous ways
Degree of Structure	High	Variable	Variable
Relationships	Individual is accountable to the group and vice versa; teacher facilitates, but group is primary	Learner engages with "more capable others" (teachers, advanced peers, etc.), who provide assistance and guidance	Learners, teachers, and others engage with each other in meaningful ways
Prescriptiveness of Activities	High	Low	Variable
Key Terms	Positive interdependence, accountability teamwork, roles, cooperative learning structures	Zone of proximal development, cognitive apprenticeship, acculturation, scaffolding, situated cognition, reflective inquiry, epistemology	Interaction-producing tasks, willingness to interact, learning styles, group dynamics, stages of group life, physical environments

& Kagan, 1992, p. 8). Thus, cooperative learning has taken on the connotation of a set of highly structured, psychologically and sociologically based techniques that help students work together to reach learning goals. Both the goals and the techniques of cooperative learning are explained later with reference to L2 learning.

In contrast, the concept of *collaborative learning* derives from different intellectual roots, that is, "theoretical, political, and philosophical issues such as the nature of knowledge as a social construction and the role of authority in the classroom" (Matthews et al., p. 40). More specifically, "collaborative learning is a reacculturative process that helps students become members of the knowledge communities whose common property is different from the common property of knowledge communities they already belong to," according to Bruffee (1993, p. 3). Qualley and Chiseri-Strater (1995) describe collaborative learning as a "reflexive dialogue, a knowing 'deeper than reason'" (p. 111). Collaborative learning has thus taken on the connotation of social constructivism, which holds that learning is acculturation into knowledge communities.

Interaction refers to the situation in which people act upon each other. This article focuses mostly on verbal interaction as opposed to nonverbal interaction (for nonverbal behaviors, see

Neu, 1990; Oxford, 1995). In educational settings, interaction involves teachers, learners, and others acting upon each other and consciously or unconsciously interpreting (i.e., giving meaning to) those actions. Thus, interaction involves meaning, but it might or might not involve learning new concepts.

This article uses a variety of sources to compare cooperative learning, collaborative learning, and interaction. Many of the sources come from the field of L2 learning and teaching. However, the research on at least two of these three strands—cooperative learning and collaborative learning—is more abundant outside of the L2 field. Therefore, references are frequently made here to investigations beyond the L2 arena, on the assumption that it is possible and important to learn from research across disciplines.

We turn first to the most highly structured strand, cooperative learning. This strand is commonly found in many L2 classrooms.

COOPERATIVE LEARNING

Cooperative learning has developed into a rather complicated set of activities and options in the last 10 or 15 years. This section demystifies cooperative learning and demonstrates that it is much more than just small-group work. Cooper-

ative learning is based on the principles shown in Table 2, summarized from a variety of L2 and non-L2 sources.

Research on Cooperative Learning

Research on Frequency of Use of Cooperative Learning. Large-scale North American research outside the L2 field shows that class sessions are structured cooperatively only between 7% and 20% of the time (Johnson, Johnson, & Holubec, 1990, 1994), and teachers do 75% of the talking (Goodlad, 1984). Because many L2 classrooms are intentionally communicative, it is probable that the percentages are somewhat different, but L2 classroom research is not adequate to produce large-scale information on these percentages.

Research on Advantages of Cooperative Learning. Research findings both outside the L2 field (Johnson, Johnson, & Holubec, 1994; Slavin, 1991) and within the L2 domain (Holt, 1993; Kessler, 1992) suggest that cooperative learning has benefits for many learners.[2] Johnson, Johnson, and Holubec (1990) assert that "what we know about effective instruction indicates that cooperative learning should be used when we want students to learn more, like school better, like each other better, like themselves better, and learn more effective social skills" (p. 5). Numerous studies indicate that compared to competitive or individualistic learning experiences, cooperative learning is more effective in promoting intrinsic motivation and task achievement, generating higher-order thinking skills, improving attitudes toward the subject, developing academic peer norms, heightening self-esteem, increasing time on task, creating caring and altruistic relationships, and lowering anxiety and prejudice.

Advantages of Cooperative Learning Might Not Apply to Everyone. Not all students consistently gain the same benefits from cooperative learning, according to an analysis of four studies with samples totaling almost 1,000 students from grade school through university (Huber et al., 1992). In this multistudy analysis, students (and student teachers) who could deal with uncertainty showed a preference for cooperative learning over traditional expository learning. Students (and student teachers) who needed greater certainty were more negative and performed worse in cooperative learning than in traditional learning (Huber et al., 1992). In a different investigation by Li and Adamson (1992), gifted secondary students tended to like individualistic learning (and sometimes competitive learning) better than cooperative learning, and for these students, cooperative learning was not significantly related to higher achievement.

Research on Promoting Positive Interdependence and Accountability. Research on cooperative learning outside the L2 field shows that positive interdependence is promoted by giving individuals specific role assignments within the group (Cohen, 1994). Assigning a role (e.g., gatekeeper, encourager, recorder, explainer) to each student has the effect of assigning competence to each student, which can improve self-esteem for low-status learners. Moreover, positive interdependence is enhanced by having a group goal to which each person must contribute (Johnson, Johnson, & Holubec, 1990, 1994). Positive interdependence can sometimes be improved by structuring the materials (e.g., one pencil per group, one computer terminal per group, jigsawed division of a given reading for the group to share) (Slavin, 1991). Positive interdependence is enhanced by

TABLE 2
Principles of Cooperative Learning

1. Positive interdependence: Gains for one person are associated with gains for others; can be attained through structuring the goals, rewards, roles, materials, or rules

2. Accountability: Every person is accountable through individual grading and testing; the group is accountable through a group grade; improvement scores are possible

3. Team formation: Teams are formed in various ways—randomly; by student interest; by the teacher using specific criteria (heterogeneously, representing different characteristics such as aptitude or gender; or homogeneously)

4. Team size: Groups of smaller than 7 members usually work best

5. Cognitive development: This is often viewed as the main goal of cooperative learning

6. Social development: Development of social skills such as turn taking, active listening, and so forth can be as important as cognitive development

having clearly defined rules and clear criteria for grading both individual and group performance; methods that use only a group grade without making each person accountable do *not* consistently produce achievement gains (Slavin, 1991).

"Improvement scoring" for the individual and for the group gives everyone a chance to improve and provides a sense of accountability (Olsen & Kagan, 1992). However, such scoring might be perceived negatively by initially high achievers who have less room to improve than do initially low achievers. Perhaps this is one reason that many gifted students (see Li & Adamson, 1992) preferred individualistic learning over cooperative learning.

Research on Effective Formation of Cooperative Groups. According to cooperative-learning research outside the L2 field, structured forms of teacher-assigned heterogeneous grouping can enhance relations among classmates, promote learner-to-learner tutoring, increase tolerance, decrease prejudice, and promote cross-cultural understanding (Slavin & Oickle, 1981; Kagan, 1985), although such grouping involves increased thought, effort, and energy on the part of the teacher. Heterogeneous grouping can be done on the basis of language proficiency, language background, ethnicity, gender, or other factors.

Random grouping or interest-based grouping can provide a perception of fairness, although it can also create possible incompatibilities and "loser teams" (Olsen & Kagan, 1992). Homogeneous grouping (according to language proficiency or other factors) can ease classroom management but can create group labeling problems and inhibit learner-to-learner tutoring opportunities (Olsen & Kagan, 1992).

Research on Developing Social and Communicative Skills. Non-L2 research indicates that development of specific social and communicative skills is possible through cooperative learning (Slavin, 1991). Such skills include asking for clarification, checking the understanding of others, explaining, paraphrasing, acknowledging contributions, asking others to contribute, praising others, verifying consensus, and mediating conflicts.

In the L2 classroom, many of these skills are viewed as socioaffective learning strategies (O'Malley & Chamot, 1990; Oxford, 1990, 1996a), and some are included as memorized L2 routines or "gambits" (Coelho, 1992). These behaviors are essential in normal human communication, so it is no surprise that many L2 teachers pay attention to them. If these skills are to be learned most effectively, teachers must provide opportunities for systematic, explicit practice with these skills (Hertz-Lazarowitz & Miller, 1992).

Approaches to Cooperative Learning

Three primary approaches are mentioned frequently in the research on cooperative learning. The first approach consists of a multistep lesson-planning process, the second approach is comprised of organized, repeatable classroom "learning structures," and the third approach involves the packaging of entire curricula.

The lesson-planning approach, called Learning Together, organizes cooperative learning for use in any grade or age level with any subject (Johnson, Johnson, & Holubec, 1990, 1994). Eighteen steps are divided into five categories, representing lesson-planning decision points: (a) specifying objectives; (b) making decisions (e.g., about group size and assignments, arranging the room, planning materials, and assigning group roles); (c) communicating the task, the goal structure, and the learning activity; (d) monitoring and intervening; and (e) evaluating and processing. Virtually any L2 activity or task can fit into this structure. What defines this model as cooperative learning rather than merely as group work—and as potentially valuable for L2 instruction—is the fact that interdependence, accountability, group formation, social skills, and structure are all built into the sequence and communicated to the students in multiple ways.

The second approach, sometimes called the Structural Approach, is based on the use of sequences of organized, content-free, repeatable classroom behaviors, known as "structures" (Kagan, 1989; Olsen & Kagan, 1992; Sharan, 1990; Sharan & Hertz-Lazarowitz, 1980; Slavin, 1990; Wade, Abrami, Poulsen, & Chambers, 1995). These are different from "activities," which are defined as content-bound and cannot be repeated meaningfully many times. Multiple structures can sometimes be used within a given class period, depending on the learning objectives. There is little or no systematic L2 research on these particular structures with regard to effectiveness with students of different L2 proficiency levels. However, one might speculate that class- or team-building structures (Similarity Grouping, Line-Up, Roundtable, Round Robin), division-of-labor structures (Partners, Jigsaw), communication-creating structures (Talking Tokens, Paraphrase Passport, Match Mine), and mastery and review structures (Numbered Heads Together, Pairs Check, Inside-Outside Circle, Co-op Cards, Student Teams Achievement Divisions, and Teams-

Games-Tournaments) might be useful with learners of varying L2 proficiencies. Some concept-development structures (Group Discussion, Three-Step Interview, Pair Interview, Think-Pair-Share, Solve-Pair-Share) and project structures (Co-op/Co-op and Group Investigation) might require students to have greater L2 proficiency.

The third approach consists of using existing, published cooperative learning packages that address one or more aspects of the curriculum. For instance, *Finding Out/Discubrimiento* (De Avila et al., 1987) is a Spanish and English package designed for elementary math and science in English as a second language (ESL)/bilingual settings. In this package, teams are assigned to learning centers; each team member must complete the assignment before the team can move on, with rapid completers helping slower completers. *Comprehensive Integrated Reading and Composition* (based on work by Slavin, 1990; Stevens et al., 1987) combines cooperative learning structures with reading and process writing. *Team Accelerated Instruction* (Slavin et al., 1986) applies cooperative learning structures to mathematics. Olsen's *Problem Solving Approach* for language learning asks students to identify differences between picture pairs (see Kessler, 1992). *Listening and Describing Techniques* (Palmer et al., 1988) applies discrete data in four kinds of pairwork tasks for language learning: describing pictures, listening to descriptions of pictures, listening for a word, and listening for cues to a scripted dialogue. The package called *All Sides of the Issue* (Coelho, Winer, & Olsen, 1989) asks each group of language learners to deal with four sides of a controversial issue, from which debates and discussions emerge.

Comparison. As can be seen from the description of these three approaches, cooperative learning is indeed highly organized and has specific aims. All of these approaches are usable within the L2 setting, but more research is needed about the effectiveness of these models for the variety of purposes (e.g., fluency development, accuracy, and cultural understanding) served by L2 instruction.

The next section, which deals with collaborative learning, shows a very different outlook from that of cooperative learning. Cooperative learning concentrates on rigorously prescribed, although creative, features of classroom organization designed to lead to skill development. Collaborative learning has a possibly deeper epistemological basis and focuses on social relationships in a community of learners.

COLLABORATIVE LEARNING

This section describes the second communicative strand, collaborative learning. In its current meaning, collaborative learning is related to social constructivist philosophy. Not all users of the term *collaborative learning* refer to social constructivism, but increasing numbers of people in academia have begun to use this term to imply a constructivist epistemology. Epistemology is the field of study that deals with what is known and how it is known.

Dewey's Pragmatic Form of Social Constructivism

John Dewey, an American philosopher and educator who is often viewed as a social constructivist (although the term constructivism was not yet in vogue during his lifetime), developed a *pragmatic/instrumentalist approach* to epistemology (for details, see Oxford, 1997). In Dewey's view, learners do not learn in isolation; the individual learns by being part of the surrounding community and the world as a whole. Dewey proposed a triangular relationship for the social construction of ideas among the individual, the community, and the world.

Dewey believed that ideas are meaningful only if they are (a) part of an acceptable theory, (b) instrumentally useful for creating positive action, (c) constructed by participants in society, and (d) related to the guideposts or reference points provided by society. In Dewey's view, disciplined, reflective inquiry promoted by a community of learners (i.e., the knowledge community) helps create meaning among seemingly unstable events. In many modern publications about L2 teaching and learning, references are made to Dewey-based ideas such as reflective learning, reflective teaching, and communities of scholars or learners. (For an excellent example of some of these usages, see Richards & Lockhart, 1994.)

In the educational setting, Dewey preferred to organize content around broad content-rich ideas rather than around smaller problems or projects. He was later mistakenly viewed as promoting project work in the classroom, but in fact he did not believe in discrete projects unconnected to major themes. Modern-day thematic instruction, covering themes such as family, friendship, power, emotions, health, technology, and so forth, is found in some of today's most innovative L2 textbooks. This type of instruction echoes Dewey's concept of content-rich ideas or themes, as filtered through various L2 instructional concepts such as functional-notional teach-

ing and proficiency-based instruction (Nyikos, personal communication, March 15, 1997).

Vygotsky's Social Constructivist Ideas

Lev Vygotsky, a Russian psychologist, contributed significantly to social constructivist epistemology. Like Dewey, Vygotsky recognized that ideas have social origins; they are constructed through communication with others. An individual's cognitive system is a result of communication in social groups and cannot be separated from social life (Vygotsky, 1978, 1986). Vygotsky (with Dewey) focused on the individual powerfully rooted in the group context (Donato, 1994; John-Steiner, 1985; Lantolf, 1993).

For Vygotsky, the teacher acts as a facilitator or guide and the provider of assistance. Teachers perform a great service to students by providing any and all forms of assistance that might help students develop their language and cultural skills. In the L2 classroom, Vygotsky's idea of assistance might include a hint or clue, a word of praise, a suggestion, a learning strategy, a grammar reminder, or an intensive review—anything that the particular L2 student needs at a given time. When the learner needs the greatest assistance, the teacher gives "scaffolding" to ensure that the learner's constructs will continue to grow stronger and more complex. As the learner requires less help, the teacher slowly removes the no longer needed scaffolding that props up the learner, and the learner becomes increasingly self-directed and self-empowered.

Vygotsky introduced the concept of the *zone of proximal development* (ZPD), that is, the realm of potential learning that each learner could reach within a given developmental span under optimal circumstances and with the best possible support from the teacher and others in the environment. Lantolf (1993) emphasizes that the ZPD is negotiated between the teacher and the student (or between the student and peers or others).

Recent Social Constructivist Contributions

Other social constructivist concepts include *context* and *situated cognition.* The context (i.e., setting and activity) in which knowledge is developed cannot be separated from learning, nor is it neutral (Lave & Wenger, 1991; Rogoff & Lave, 1984). Learning is fully situated or located within a given context. Learning occurs while people participate in the sociocultural activities of their learning community, transforming (i.e., constructing) their understanding and responsibilities as

they participate. In a community of learners, both children and adults are active in structuring the inquiry conversationally, although usually with asymmetric roles.

For social constructivists, the emphasis is on the learning process, rather than just the completion of projects, in activity-based situations with meaningful purposes. The student becomes acculturated, enculturated, or reacculturated (i.e., apprenticed into a particular learning culture or environment [Bruffee, 1993]) through classroom activities and through the modeling and coaching of the teacher and many others. Rather than just the teacher/learner dyad, there exists a field of many actors and many different kinds of relationships. Many people can provide the scaffolding that the student needs.

Applications of Social Constructivism to Collaborative Learning in the L2 Classroom

The L2 learning process is situated in a particular social context. It involves becoming part of the culture of the learning community. For the L2 learner, the immediate, close-at-hand learning community is the classroom. For instance, an Australian or North American or British learner of Spanish finds a learning community in the Spanish language classroom, if the atmosphere is nurturing and the proper assistance is available. However, the L2 learning community can and should also extend beyond the classroom. L2 learning can be a global adventure that involves learning about, understanding, and (at least to some extent) identifying with another culture in which people use a different language, possibly in a completely different part of the world. In fact, the proficiency standards of the American Council on the Teaching of Foreign Languages (ACTFL, 1995) specifically highlight the cultural aspects of language learning. Few other fields are as culture-oriented in the Deweyan sense as the field of L2 learning and teaching. The L2 teacher often acts as an envoy or representative of the target culture, not just as a participant in the culture of the classroom. Particularly in unilingual contexts where the target language is viewed as a foreign language, the teacher might be the main or only direct contact that the language learner has with the target culture.

In a community of L2 learners, cultural and linguistic ideas are best shaped through reflective inquiry with other people (teachers, peers, native speakers, etc.), who help the learner negotiate his or her own ZPD, that is, the student's degree of potential under the best conditions. In a strong

L2 learning community, these people provide scaffolding, consisting of multiple forms of assistance that can be removed bit by bit as the learner becomes more proficient in the language and the culture (Scarcella & Oxford, 1992).

Thus, social constructivism is the foundation for collaborative learning in the L2 classroom. In contrast with cooperative L2 learning, collaborative L2 learning as described here appears much more grounded in an epistemological base. Collaborative L2 learning, when compared with cooperative L2 learning, seems less technique-oriented, less prescriptive, and more concerned with acculturation into the learning community. Compared with cooperative L2 learning, collaborative L2 learning is more explicitly oriented to negotiating and fulfilling the potential (traversing the ZPD) of each L2 learner, although cooperative learning proponents might debate this.

We turn now to the third communicative strand, interaction. The following explanation views interaction from several theoretical and practical angles that might be applicable to both cooperative learning and collaborative learning.

INTERACTION

Interaction involves interpersonal communication. In the L2 classroom, interaction relates to: (a) types of language tasks, (b) learners' willingness to communicate with each other, (c) learning style dimensions affecting interaction, and (d) group dynamics.

Language Tasks Promoting Interaction

Certain kinds of L2 tasks encourage interaction: simulations, games, role plays, drama, and the use of electronic media. These can be used as part of either cooperative learning or collaborative learning, provided that they are employed using the principles mentioned above.

Simulation is the general, overarching term describing a broad field that includes a variety of activities frequently found in the L2 classroom such as games, role plays, and drama activities (Crookall & Oxford, 1990). A simulation such as a mock international relations summit represents some real-world system. At the same time, a simulation is an actual, current reality in and of itself. Other features of L2 simulations include their relative safety and the low cost of making an error. In an L2 classroom in which the teacher is supportive, physical and emotional safety are guaranteed and participants can make linguistic mistakes without serious real-world consequences.

Contrast this with some real-life L2 communication situations. For a person who is not a native speaker of Japanese, participating in an actual (nonsimulated) Japanese-language business negotiation in Japan involves very high social and financial stakes.

Role play in the L2 classroom is a form of simulation. Role play is a social activity in which participants act out specified roles, often within a more or less prescribed social setting or scenario. The role play participant represents and experiences some character type identifiable in everyday life. In L2 role play, students are asked to memorize, paraphrase, or even create the words said by a particular character. Drama in the L2 classroom is similar to role play but might be more formalized and more literary. L2 games might or might not involve taking clear social roles and usually have no permanently serious error cost, although they often produce temporary winners and losers.

L2 research (Scarcella & Crookall, 1990) indicates that such tasks generate vast amounts of authentic language, cause active student involvement, engage students' motivation and interest, help students think about and live the target culture to some degree, and enable learners to practice L2 communication skills. Many books for L2 teachers and learners emphasize simulations, role plays, drama, and games.[3]

Electronic media also encourage interaction. Relevant tasks include networking between students at home and abroad, networking between students and teachers, communicating in interactive-videodisc simulations, talking in a small group gathered around the computer, and tracking one's own learning strategies interactively via computer (Baltra, 1990; Baily, 1996; Chapelle & Mizuno, 1989; Crookall & Oxford, 1990; Gonzales-Edfelt, 1990; Hansen, 1990; Holland, Kaplan, & Sams, 1995; Smith, 1988).

Willingness to Communicate in the Language Classroom

A second aspect of classroom interaction is *willingness to communicate*, which is defined as a student's intention to interact with others in the target language, given the chance to do so. Research has shown that willingness to communicate in one's own native language is related to a feeling of comfort, high self-esteem, extroversion, low anxiety, and perceived competence, whereas unwillingness to communicate (i.e., communication apprehension) is associated with the opposites: discomfort, low self-esteem, introversion,

high anxiety, and perceived incompetence (Mc-Croskey, 1984). According to L2 research (Mac-Intyre, 1994; MacIntyre & Charos, 1996), students, especially novices, who are willing to communicate with others in the target language are likely to possess a strong tolerance for ambiguity, low anxiety, and a desire to take moderate but intelligent risks, such as guessing word meanings based on background knowledge and speaking up despite the possibility of making occasional mistakes (see discussion of learning style below). Students who take no risks at all, or those who take extreme, uninformed risks, are less likely to have positive experiences and more prone to language anxiety. Unwillingness to communicate can arise if the L2 student does not feel any link with the target language group or feels threatened by the loss of his or her native-language identity. Willingness to communicate might be a key variable in describing differences among L2 learners when they go out into the real world. It is certainly related to communicative confidence and to the degree of anxiety a person experiences about interacting with others in a communicative setting (Clément, 1986; Clément & Kruidenier, 1985; Gardner & MacIntyre, 1993; Horwitz & Young, 1991; Labrie & Clément, 1986; MacIntyre & Gardner, 1989, 1991).

Willingness to communicate in the L2 is probably also associated with what Seliger (1983) calls "input generation," although this relationship has not yet been explored empirically. High input generators initiate L2 conversations with the teacher or with peers, using any number of means to take an active role. Low input generators take a more passive role in the L2 classroom, interacting almost exclusively with the teacher. Seliger found that, compared with low input generators, high input generators spoke more often in the L2, caused others to direct more L2 speech toward them, and made fewer cross-language errors.

Cooperative and collaborative learning probably encourage involvement by students who are inclined to be high input generators and allow reticent students to feel more willing to communicate. The social-psychological aspects of interaction are no doubt related to the kind of L2 tasks employed and to the nature of the L2 learning environment.

Learning Styles Potentially Influencing L2 Classroom Interaction

A third interactional aspect involves *learning styles*, which can be defined as the general approaches students use to learn a new subject or tackle a new problem. Some of these approaches involve a high degree of interaction whereas some emphasize less interaction. Individual learners have a composite of at least 20 style dimensions (Oxford & Anderson, 1995; Oxford, Hollaway, & Horton-Murillo, 1992), including the following, among others: global versus analytic, concrete-sequential versus intuitive-random, closure-oriented versus open, extroverted versus introverted, and visual versus auditory versus hands-on (see Table 3). The most relevant style dimension for language classroom interaction is extroversion versus introversion, although Table 3 shows that many dimensions can affect such interaction.

Every time a student interacts with any other student in the L2 classroom, multiple dimensions of the first student's style interact with multiple aspects of the second student's style. Imagine this single-student-to-single-student situation exponentiated by the number of students in the class, resulting in hundreds of possible style interactions just among the students themselves. Then imagine the L2 teacher—who brings a set of personally valuable learning style dimensions as well as a set of teaching style elements that might not match his or her own learning style—interacting with each of the students, with small clusters of students, and with the whole class. Sometimes these interactions result in style harmonies, in which the styles are the same or at least compatible; however, at other times, these interactions result in style conflicts, in which the styles clash subtly or dramatically. Wallace and Oxford (1992) discovered that teacher-student style harmony, compared with style conflict, resulted in significantly better grades for writing, reading, and grammar.

Teachers and learners are in the best position to understand style conflicts (as well as style harmonies) if they have taken the time to identify and discuss their own preferred styles. A style survey (see instruments contained in Reid's [1995] book on learning styles in the L2 classroom) is a quick, useful way to identify learning styles. Student-written learning narratives and group discussions about learning uncover students' learning styles and experiences with teachers. Understanding the style preferences of individual language learners and of any L2 class in general helps the teacher design lessons that provide a range of activities suitable for all the people in the class, neither slighting nor favoring a particular set of individuals (Oxford, Hollaway, & Horton-Murillo, 1992; Oxford, 1996b).

TABLE 3
Characteristics of Different Learning Styles Influencing L2 Classroom Interaction

GLOBAL	ANALYTIC
Asks for the big picture	Asks for many details
Not always interested in accuracy	Asks for accuracy and precision
Feels comfortable with compensating in speech for lack of knowledge	Avoids compensation strategies that might cause imprecision in speaking
Impulsive	Reflective
CONCRETE-SEQUENTIAL	INTUITIVE-RANDOM
Needs high structure and order	Likes randomness and freedom
Talks about the present task	Talks about futuristic possibilities
Asks for explicit directions	Prefers to make up own directions
Needs an authority figure	Does well without an authority figure
CLOSURE-ORIENTED	OPEN
Requests deadlines for task completion	Sometimes feels restricted by deadlines
List-maker and list-follower	Ignores lists even after making them
Wants to decide rapidly	Wants to keep all options open
EXTROVERTED	INTROVERTED
Gets energy from other people	Feels energy is sapped by others
Enjoys group work	Likes to work alone or in familiar group only
Likes many events and activities	Prefers to concentrate on fewer things
Often extremely sociable	Can be sociable or withdrawn, depending on situation and who is involved

VISUAL	AUDITORY	HANDS-ON
Learns best visually	Learns best auditorally	Learns best through movement/touch

Group Dynamics in the L2 Classroom

A final aspect of classroom interaction is group dynamics. The group, which is richer in resources than any single individual, affects members' attitudes, such as confidence and satisfaction, and these attitudes influence interaction. Groups provide guidelines for behavior within the group (which might be very different from behavior outside the group), offer standards for self-evaluation, and help learners maintain energy.

In the L2 classroom, the group can be considered the whole class of students (and the teacher), but it can also be smaller clusters or subgroups of students working on specific tasks. Senior (1997) argues that L2 classes need to be transformed into bonded groups. For a class to become bonded, the typical stages in group life often occur. Frank and Brownell (1989) identify four stages of group life. The first stage is group formation, whereas the last three (conflict, cohesion, and problem-solving) are sometimes known collectively as group development.

Harris (1993), an organizational behavior specialist, describes three types of group cultures: (a) authoritarian/bureaucratic, (b) compromise/supportive, and (c) performance/innovative. The authoritarian/bureaucratic culture uses rules, laws, rewards, and punishments to control members, with the desired end being compliance to authority. The compromise/supportive culture uses interpersonal or group commitment, discussion, and agreement, with the desired goal of consensus. The performance/innovative culture emphasizes internally controlled, highly individualistic ideas, with the goal being self-actualization and individual achievement. Depending on the teacher and the group members, the L2 classroom can contain any of these types of group cultures.

The classroom's physical environment greatly affects the interactions taking place within it. Although little research on physical environments has been conducted in L2 instruction settings, common sense suggests that this environmental principle applies to the L2 classroom just as it does to other kinds of classrooms. The arrangement of the traditional classroom, with its rows of desks and the teacher at the front, is teacher-centered. Research (Patterson et al., 1979; Loughlin, 1992) indicates that such an arrangement hinders communication, except between the teacher and one student at a time. This can be comforting to students who want to have as little interaction as possible. Yet this setting also reinforces students' fears that, if singled out, they might re-

ceive the teacher's negative criticism in front of the whole class. A circular or semicircular arrangement (with concentric double or triple circles, or semicircles if the group is large) is adaptable for many L2 tasks and helps achieve optimal eye contact (which might be culturally acceptable for some students but not others). When small-group work occurs, the teacher is not typically present in the main interaction networks. [4]

As discussed here, the interaction strand includes at least four aspects: language tasks, the social-psychological concept of willingness to communicate, learning styles, and group dynamics. Interaction is thus a heterogeneous but important concept for the communicative L2 classroom.

CONCLUSIONS AND FUTURE QUESTIONS

This article argues that cooperative learning, collaborative learning, and interaction are three strands in the communicative L2 classroom. Cooperative learning refers primarily to an array of highly structured goals and techniques for learning. Collaborative learning is more philosophically oriented, with the goal of acculturating students into the immediate community of learners and the wider world of the target language and culture. Interaction is a varied and broad concept related to a number of key themes, as discussed above.

The articles in this special issue reflect, to one degree or another, the use of these three terms, although not always in the ways described in the present discussion. Each article involves various kinds and degrees of interaction. This theme is a specific focus for Devitt, who describes interaction between the student and the authentic text. Interaction arises clearly in another article, when Vandergrift speaks of receptive strategies in interactive listening. In Dörnyei's article, the primary focus is on one aspect of interaction, group dynamics.

Several articles in this special issue deal explicitly or implicitly with collaborative learning, which embodies the constructivist view of acculturation into a community. Nyikos and Hashimoto, Horwitz et al., and Wilhelm all describe—in multiple and interesting ways—apprentice language teachers becoming part of a culture or community of teachers. Warschauer explores computer-mediated collaborative learning.

Although beyond the scope of the present article, other important questions call for further research: What differences exist in the cultural acceptability of cooperative learning, collaborative learning, and interaction in language classrooms in different parts of the world? Would every culture embrace cooperative learning, which promotes not only achievement but also Western-style social skills, in-class communication, and such values as tolerance and altruism? Would the social constructivist beliefs underlying collaborative learning—beliefs such as the need for acculturating the student into a learning community, scaffolding and nurturing the learner, and negotiating the ZPD in a social context—be equally accepted by the People's Republic of China, New Zealand, Zimbabwe, or France? How does religion relate to the acceptability of these social constructivist ideas? Would diverse cultures be warmly enthusiastic about interaction-related tasks that might require significant instructional variety and creativity, involve complex group dynamics, allow style conflicts to emerge, or perhaps embarrass those who are reluctant to communicate? For some ideas about these issues, see Hofstede (1986), Oxford (1995), and Sullivan (1996).

Another set of questions includes the following: To what extent can cooperative learning, collaborative learning, and interaction be employed in the same L2 classroom? To what degree do these approaches clash? To what degree do they overlap? Matthews et al. (1995) call for building bridges between cooperative learning and collaborative learning, although these authors do not specifically include interaction as another possible candidate for bridge-building. What degree of effort would be involved in building these bridges? Would anyone have to forsake deeply held values in the process?[5]

Further dialogue is needed among L2 teachers and researchers about cooperative learning, collaborative learning, and interaction. As this discussion continues, we can develop these three strands into a larger, more comprehensive, more cohesive typology of interpersonal communication in the L2 classroom.

NOTES

[1] Dictionary definitions are a starting place for understanding the concepts of cooperative learning, collaborative learning, and interaction. *To cooperate* is defined as "to work (operate) together jointly with others to some end," according to *The New Lexicon: Webster's Dictionary of the English Language, Encyclopedic Edition* (Lexicon, 1987). In the same volume, *to collaborate* is defined as "to work together, especially on work of an intellectual nature." Therefore, at the most fundamental level, *cooperative* and *collaborative* both describe a situation of working together with others to some end, possibly an intellectual one. *To interact* means "to act upon each other," according to the same dictionary (Lexicon, 1987). *Interaction* therefore refers to the situation in which people (or things) act upon each other.

[2] For other L2 research evidence, see Deen (1991), Dörnyei (1994), Fathman and Kessler (1993), Gunderson and Johnson (1980), McGroarty (1993), and Szostek (1994). For non-L2 evidence, see Davidson and Worsham (1992), Jacques (1991), Johnson and Johnson (1989, 1994), Johnson, Johnson, and Holubec (1990, 1994), Slavin (1990, 1991), Qin (1992), and Thousand, Villa, and Nevin (1994).

[3] A few of these books include: *Methods that Work: Ideas for Literacy and Language Teachers* (Oller, 1993), *Making It Happen: Interaction in the Second Language Classroom* (Richard-Amato, 1988), *Interactive Techniques for the ESL Classroom* (Shoemaker & Shoemaker, 1991), *Developing Communication Skills: A Practical Handbook for Language Teachers, with Examples in English, French and German* (Pattison, 1987), *Games for Language Learning* (Wright, Betteridge, & Buckby, 1991), and *Drama Techniques for Language Learning: A Resource Book of Communication Activities for Language Teachers* (Maley & Duff, 1992).

[4] A new book edited by Bailey and Nunan (1996), *Voices from the Language Classroom: Qualitative Research in Second Language Acquisition*, illustrates many aspects of group dynamics influencing interaction.

[5] In my own teaching, I employ the three approaches fairly comfortably. I regularly use simple but powerful cooperative learning tasks such as Value Line, Brainstorming, Jigsaw, and Think-Pair-Share. I consciously apply the collaborative learning concepts of acculturation, situated cognition, ZPD, and scaffolding. I use interaction-generating games and simulations, analyze as best I can the interactive dynamics within groups, and pay close attention to the relationships between learning styles and willingness to interact in the classroom. So far I have found many points of concordance in the three approaches or perspectives. However, as noted in this article, I perceive some philosophical and practical differences in emphasis among these three approaches.

REFERENCES

American Council on the Teaching of Foreign Languages. (1995). *Standards for language and culture learning.* Hastings-on-Hudson, NY: Author.

Bailey, K. M., & Nunan, D. (Eds.). (1996). *Voices from the language classroom: Qualitative research in second language education.* Cambridge: Cambridge University Press.

Baily, C. A. (1996). Unobtrusive computerized observation of compensation strategies for writing to determine the effectiveness of strategy instruction. In R. L. Oxford (Ed.), *Language learning strategies around the world: Crosscultural perspectives* (pp. 141–150). Manoa: University of Hawaii Press.

Baltra, A. (1990). Language learning through computer adventure games. *Simulation and Gaming, 21(4),* 445–452.

Barcelos, A. M. F. (1997, February). *Cultural aspects of Brazilian and American culture related to classroom learning and teaching.* Paper presented at the International Conference on Language, Literature, and Culture, Gadsden State Community College, Gadsden, AL.

Bruffee, K. A. (1993). *Collaborative learning: Higher education, interdependence, and the authority of knowledge.* Baltimore: Johns Hopkins University Press.

Chapelle, C., & Mizuno, S. (1989). Students' strategies with learner-controlled CALL. *CALICO Journal, 7,* 25–47.

Clément, R. (1986). Second language proficiency and acculturation: An investigation of the effects of language status and individual characteristics. *Journal of Language and Social Psychology, 5,* 271–290.

Clément, R., & Kruidenier, B. G. (1985). Aptitude, attitude, and motivation in second language proficiency: A test of Clément's model. *Journal of Language and Social Psychology, 4,* 21–37.

Coelho, E. (1992). Cooperative learning: Foundation for a communicative curriculum. In C. Kessler (Ed.), *Cooperative language learning: A teacher's resource book* (pp. 31–50). Englewood Cliffs, NJ: Prentice Hall.

Coelho, E., Winer, L., & Olsen, J. W.-B. (1989). *All sides of the issue.* Hayward, CA: Alemany.

Cohen, E. G. (1994). Restructuring the classroom: Conditions for productive small groups. *Review of Educational Research, 64(1),* 1–35.

Crookall, D., & Oxford, R. L. (1990). Linking language learning and simulation/gaming. In D. Crookall & R. L. Oxford (Eds.), *Simulation, gaming, and language learning* (pp. 2–24). Boston: Heinle.

Davidson, N., & Worsham, T. (Eds.). (1992). *Enhancing thinking through cooperative learning.* New York: Teachers College Press.

De Avila, E. A., Duncan, S. E., & Navarrete, C. (1987). *Finding out/Discubrimiento.* Northvale, NJ: Santillana.

Deen, J. Y. (1991). Comparing interaction in a cooperative learning and teacher centered foreign language classroom. *ITL Review of Applied Linguistics*, 93–94, 153–181.

Devitt, S. (1997). Interacting with authentic texts: Multilayered processes. *Modern Language Journal, 81*, 457–469.

Donato, R. (1994). Collective scaffolding in second language learning. In J. P. Lantolf & G. Appel (Eds.), (pp. 31–56). *Vygotskian perspectives on second language research*. Norwood, NJ: Ablex.

Dörnyei, Z. (1994). Motivation and motivating in the foreign language classroom. *Modern Language Journal, 78*, 273–284.

Dörnyei, Z. (1997). Psychological processes in cooperative language learning: Group dynamics and motivation. *Modern Language Journal, 81*, 482–493.

Fathman, A. K., & Kessler, C. (1993). Cooperative language learning in school contexts. *Annual Review of Applied Linguistics, 13*, 127–140.

Frank, A., & Brownell, J. (1989). *Organizational communication and behavior: Communicating to improve performance (2 + 2 = 5)*. New York: Holt, Rinehart & Winston.

Gardner, R. C., & MacIntyre, P. D. (1993). On the measurement of affective variables in second language learning. *Language Learning, 43*, 157–194.

Goodlad, J. (1984). *A place called school: Prospects for the future*. New York: McGraw-Hill.

Gonzales-Edfeldt, N. (1990). Oral instruction and collaboration at the computer: Learning English as a second language with the help of your peers. *Computers in the School, 7(1–2)*, 53–89.

Gunderson, B., & Johnson, D. (1980). Building positive attitudes by using cooperative learning groups. *Foreign Language Annals, 13*, 39–43.

Hansen, E. (1990). The role of interactive video technology in higher education: Case study and a proposed framework. *Educational Technology, 30 (9)*, 13–21.

Harris, T. E. (1993). *Applied organizational communication: Perspectives, principles, and pragmatics*. Hillsdale, NJ: Erlbaum.

Hertz-Lazarowitz, R., & Miller, N. (Eds.). (1992). *Interaction in cooperative groups: A theoretical anatomy of group learning*. New York: Cambridge University Press.

Hofstede, G. (1986). Cultural differences in teaching and learning. *International Journal of Intercultural Relations, 10*, 301–320.

Holland, V. M., Kaplan, J. D., & Sams, M. R. (Eds.). (1995). *Intelligent language tutors: Theory shaping technology*. Mawah, NJ: Erlbaum.

Holt, D. D. (Ed.). (1993). *Cooperative learning: A response to linguistic and cultural diversity*. Washington, DC: Center for Applied Linguistics.

Horwitz, E., Bresslau, B., Dryden, M., McLendon, M. E., & Yu, J.-F. (1997). Helping teachers prepare for collaboration with language learners: A graduate course about the second language learner. *Modern Language Journal, 81*, 518–526.

Horwitz, E., & Young, D. (1991). *Language anxiety: From theory and research to classroom implications*. Englewood Cliffs, NJ: Prentice Hall.

Huber, G. L., Sorrentino, R. M., Davidson, M. A., Epplier, R. (1992). Uncertainty orientation and cooperative learning: Individual differences within and across cultures. *Learning and Individual Differences, 4(1)*, 1–24.

Jacques, D. (1991). *Learning in groups* (2nd ed.). London: Kogan Page.

John-Steiner, V. (1985). The road to competence in an alien land: A Vygotskian perspective on bilingualism. In J. V. Wertsch (Ed.), *Culture, communication, and cognition: Vygotskian perspectives* (pp. 348–372). Cambridge: Cambridge University Press.

Johnson, D. W., & Johnson, R. T. (1989). *Cooperation and competition: Theory and research*. Edina, MN: Interaction Book.

Johnson, D. W., & Johnson, R. T. (1994). *Learning together and alone: Cooperative, competitive, and individualistic learning* (4th ed.). Boston: Allyn & Bacon.

Johnson, D. W., Johnson, R. T., & Holubec, E. J. (1990). *Circles of learning: Cooperation in the classroom*. Edina, MN: Interaction Book.

Johnson, D. W., Johnson, R. T., & Holubec, E. J. (1994). *The new circles of learning: Cooperation in the classroom and school*. Alexandria, VA: Association for Supervision and Curriculum Development.

Kagan, S. (1985). Co-op co-op: A flexible cooperative learning technique. In R. Slavin, S. Sharan, S. Kagan, R. Hertz-Lazarowitz, C. Webb, & R. Schmuck (Eds.), (pp. 67–96) *Learning to cooperate, cooperating to learn*. New York: Plenum.

Kagan, S. (1989). *Cooperative learning resources for teachers*. San Juan Capistrano, CA: Resources for Teachers.

Kessler, C. (Ed.). (1992). *Cooperative learning: A teacher's resource book*. Englewood Cliffs, NJ: Prentice Hall.

Labrie, N., & Clément, R. (1986). Ethnolinguistic vitality, self-confidence, and second language proficiency: An investigation. *Journal of Multilingual and Multicultural Development, 7*, 269–282.

Lantolf, J. (1993). Sociocultural theory and the second language classroom: The lesson of Strategic Interaction. In J. E. Alatis (Ed.), *Strategic interaction and language acquisition: Theory, practice, and research* (pp. 220–233). Washington, DC: Georgetown University Press.

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge: Cambridge University Press.

Li, A. K. F., & Adamson, G. (1992). Gifted secondary students' preferred learning style: Cooperative, competitive, or individualistic? *Journal for the Education of the Gifted, 16(1)*, 46–54.

Loughlin, C. E. (1992). Classroom physical environment. In M. C. Alkin (Ed.), *Encyclopedia of Educational Research* (6th ed., Vol. 1, pp. 161–164). New York: Macmillan.

MacIntyre, P. D. (1994). Variables underlying willingness to communicate: A causal analysis. *Communication Research Reports, 11*, 135–142.

MacIntyre, P. D., & Charos, C. (1996). Personality, attitudes, and affect as predictors of second language communication. *Journal of Language and Social Psychology, 15,* 3–26.

MacIntyre, P. D., & Gardner, R. C. (1989). Anxiety and second language learning: Toward a theoretical clarification. *Language Learning, 39,* 251–275.

MacIntyre, P. D., & Gardner, R. C. (1991). Language anxiety: Its relation to other anxieties and to processing in native and second languages. *Language Learning, 41,* 513–534.

Maley, A., & Duff, A. (1992). *Drama techniques in language learning: A resource book of communication activities for language teachers.* Cambridge: Cambridge University Press.

Matthews, R. S., Cooper, J. L., Davidson, N., & Hawkes, P. (1995). Building bridges between cooperative and collaborative learning. *Change, 27,* 35–40.

McCroskey, J. C. (1984). The communication apprehension perspective. In J. A. Daly & J. C. McCroskey (Eds.), *Avoiding communication: Shyness, reticence, and communication apprehension* (pp. 13–38). Beverly Hills, CA: Sage.

McGroarty, M. (1993). Cooperative learning and second language acquisition. In D. D. Holt (Ed.), *Cooperative learning* (pp. 19–46). Washington, DC: Center for Applied Linguistics.

Neu, J. (1990). Assessing the role of nonverbal communication in the acquisition of communicative competence in L2. In R. C. Scarcella, E. S. Anderson, & S. D. Krashen (Eds.), *Developing communicative competence in a second language* (pp. 121–138). New York: Newbury House/Harper & Row.

The new lexicon: Webster's dictionary of the English language (encyclopedic edition). (1987). New York: Lexicon.

Nyikos, M., & Hashimoto, R. (1997). Constructivist theory applied to collaborative learning in teaching education: In search of ZPD. *Modern Language Journal, 81,* 506–517.

Oller, J. W., Jr. (1993). *Methods that work: Ideas for literacy and language teaching* (2nd ed.). Boston: Heinle.

Olsen, R. E. W.-B., & Kagan, S. (1992). About cooperative learning. In C. Kessler (Ed.), *Cooperative language learning: A teacher's resource book* (pp. 1–30). Englewood Cliffs, NJ: Prentice Hall.

O'Malley, J. M., & Chamot, A. U. (1990). *Learning strategies in second language acquisition.* Cambridge: Cambridge University Press.

Oxford, R. L. (1990). *Language learning strategies: What every teacher should know.* Boston: Heinle.

Oxford, R. L. (1995). *Patterns of cultural identity.* Boston: Heinle.

Oxford, R. L. (Ed.). (1996a). *Language learning strategies around the world: Crosscultural perspectives.* Manoa: University of Hawaii Press.

Oxford, R. L. (1996b). Personality type in the foreign or second language classroom: Theoretical and empirical perspectives. In A. Horning & R. Sudol (Eds.), *Understanding literacy: Personality preferences in rhetorical and psycholinguistic contexts* (pp. 125–145). Creskill, NJ: Hamden.

Oxford, R. L. (1997). Constructivism: Shape-shifting, substance, and teacher education applications. *Peabody Journal of Education, 72,* 35–66.

Oxford, R. L., & Anderson, N. J. (1995). A crosscultural view of language learning styles. *Language Teaching, 28,* 201–215.

Oxford, R. L., Hollaway, M. E., & Horton-Murillo, D. (1992). Language learning styles: Research and practical considerations for teaching in the multicultural tertiary ESL/EFL classroom. *System, 20(4),* 439–456.

Palmer, A. S., Rodgers, T. S., & Olsen, J. W-B. (1988). *Back and forth: Pair activities for language development.* Hayward, CA: Alemany.

Patterson, M. L., Kelly, C. E., Kondracki, B. A., & Wulf, L. J. (1979). Effects of seating arrangement on small-group behavior. *Social Psychological Quarterly, 42,* 180–185.

Pattison, P. (1987). *Developing communication skills: A practical handbook for language teachers, with examples in English, French and German.* Cambridge: Cambridge University Press.

Putnam, M. (1996). *Collaboration and cognition.* Unpublished manuscript, University of Alabama at Tuscaloosa.

Qin, Z. (1992). A meta-analysis of the effectiveness of achieving higher-order learning tasks in cooperative learning compared with competitive learning. (Doctoral dissertation, University of Minnesota, 1992.) University Microfilms International Dissertation Information Service No. 9236971.

Qualley, D. J., & Chiseri-Strater, E. (1995). Collaboration as reflexive dialogue: A knowing "deeper than reason." *Journal of Advanced Composition, 14 (1),* 111–130.

Reid, J. (Ed.). (1995). *Learning styles in the ESL/EFL classroom.* Boston: Heinle.

Richard-Amato, P. A. (1988). *Making it happen: Interaction in the second language classroom.* New York: Longman.

Richards, J. C., & Lockhart, C. (1994). *Reflective teaching in second language classrooms.* Cambridge: Cambridge University Press.

Rogoff, B., & Lave, J. (Eds.). (1984). *Everyday cognition.* Cambridge, MA: Harvard University Press.

Scarcella, R., & Crookall, D. (1990). Simulation/gaming and language acquisition. In D. Crookall & R. L. Oxford (Eds.), *Simulation, gaming, and language learning* (pp. 223–230). Boston: Heinle.

Scarcella, R., & Oxford, R. (1992). *The tapestry of language learning: The individual in the communicative classroom.* Boston: Heinle.

Seliger, H. W. (1983). Learner interaction in the classroom and its effect on language acquisition. In H. W. Seliger & M. H. Long (Eds.), *Classroom-oriented research in second language acquisition* (pp. 246–266). Rowley, MA: Newbury House.

Senior, R. (1997). Transforming language classes into bonded groups. *ELT Journal, 51(1),* 3–11.

Sharan, S. (Ed.). (1990). *Cooperative learning: Theory and research.* New York: Praeger.

Sharan, S., & Hertz-Lazarowitz, R. (1980). A group-investigation method of cooperative learning in the classroom. In S. Sharan, P. Hare, C. D. Webb, & R. Hertz-Lazarowitz (Eds.), *Cooperation in education.* Provo, UT: Brigham Young University Press.

Shoemaker, C. L., & Shoemaker, E. F. (1991). *Interactive techniques for the ESL classroom.* NY: Newbury House/HarperCollins.

Slavin, R. E. (1990). *Cooperative learning: Theory, research, and practice.* Boston: Allyn & Bacon.

Slavin, R. E. (1991). Synthesis of research on cooperative learning. *Educational Leadership, 48(5),* 71–82.

Slavin, R. E., Leavy, M. B., & Madden, N. A. (1986). *Team Accelerated Instruction: Mathematics.* Watertown, MA: Charlesbridge.

Slavin, R. E. & Oickle, E. (1981). Effects of learning teams on student achievement and race relations: Treatment by race interactions. *Sociology of Education, 54,* 174–180.

Smith, W. F. (Ed.). (1988). *Modern media in foreign language education: Theory and implementation.* Lincolnwood, IL: National Textbook.

Stevens, R. J., Madden, N. A., Slavin, R. E., & Farnish, A. M. (1987). Cooperative integrated reading and composition: Two field experiments. *Reading Research Quarterly, 22,* 433–454.

Sullivan, P. N. (1996). Sociocultural influences on classroom interactional styles. *TESOL Journal, 6,* 32–34.

Szostek, C. (1994). Assessing the effects of cooperative learning in an honors foreign language classroom. *Foreign Language Annals, 27,* 252–261.

Thousand, J. S., Villa, R. A., & Nevin, A. I. (1994). *Creativity and collaborative learning: A practical guide to empowering students and teachers.* Baltimore: Paul Brookes.

Vandergrift, L. (1997). The Cinderella of communication strategies: Reception strategies in interactive listening. *Modern Language Journal, 81,* 494–505.

Vygotsky, L. (1978). *Mind in society: The development of higher psychological processes.* Cambridge, MA: Harvard University Press.

Vygotsky, L. (1986). *Thought and language.* Cambridge, MA: MIT Press.

Wade, A., Abrami, P. C., Poulsen, C., & Chambers, B. (1995). *Current resources in cooperative learning.* New York: University Press of America.

Wallace, B., & Oxford, R. L. (1992). Disparity in learning styles and teaching styles in the ESL classroom: Does this mean war? *AMTESOL Journal, 1(1),* 45–68.

Warschauer, M. (1997). Computer-mediated collaborative learning: Theory and practice. *Modern Language Journal, 81,* 470–481.

Wilhelm, K. H. (1997). Sometimes kicking and screaming: Language teachers-in-training react to a collaborative learning model. *Modern Language Journal, 81,* 000.

Wright, A., Betteridge, D., & Buckby, M. (1991). *Games for language learning.* Cambridge: Cambridge University Press.

Forthcoming in *The Modern Language Journal*

Maria Egbert & Hiram Maxim. "Incorporating Critical Thinking and Authenticity into Business German Testing"

Eileen W. Glisen & David A. Foltz. "Assessing Students' Oral Proficiency in an Outcome-Based Curriculum: Student Performance and Teacher Intuitions"

James F. Lee. "The Relationship of Verb Morphology to Second Language Reading Comprehension and Input Processing"

Ronald P. Leow. "The Effects of Amount and Type of Exposure on Adult Learners' L2 Development in SLA"

Yoshiko Mori. "Effects of First Language and Phonological Accessibility on Kanji Recognition"

Jean-Marie Salien. Editorial: "Quebec French: Attitudes and Pedagogical Perspectives"

Susan Gass. "Apples and Oranges: Or, Why Apples Are Not Orange and Don't Need to Be." A Response to Firth & Wagner

Alan Firth & Johannes Wagner. "SLA Property: No Trespassing!"