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We dedicate this volume to the memory of
Robert J. Di Pietro,
a treasured colleague and dear friend

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Part I Zone of Proximal Development

2

Collective Scaffolding in Second Language Learning

Richard Donato

Department of Instruction and Learning
University of Pittsburgh
Pittsburgh, PA

INTRODUCTION*

For almost a decade, the study of non native speaker (NNS) interactions in the second language (L2) classroom has brought attention to the importance of the negotiation of meaning and modification of interaction to L2 development (Long, 1985; Long & Porter, 1985; Porter, 1986; Pica, Holliday, Lewis, & Morgenthaler, 1989). These

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studies have maintained that modifying interaction through the negotiation of meaning is a means of providing comprehensible input (Krashen, 1985) to the learner's subconscious language processing mechanisms. Thus, it is argued that the development of the learner's interlanguage system is stimulated by two processes engendered in interaction—first, the need for comprehensible input to the learner; and second, the challenge for the learners to grammatically structure their output (Swain, 1985). The psycholinguistic rationale (Long & Porter, 1985) for classroom group work is derived, therefore, from the theory that negotiating meanings provides the necessary and sufficient conditions for acquisition and mastery of a second language.

It has been asserted that we need to continue to identify ways in which learners produce comprehensible input and comprehensible output and that negotiated interaction is a most vital source of data (Pica, et al., 1989, p. 84). In the context of research, the identification of these discourse processes is generally understood as the description and categorization of repair strategies, or negotiation moves (Pica, et al., 1989) observed in learners during message clarification and comprehension. Although empirical studies of second language interaction have uncovered a profusion of statistical results documenting the relationship between communicative task, negotiation strategies, and grammaticality, they have yet to show the effect that negotiation arising from interaction has on eventual L2 acquisition (Chaudron, 1988, p. 109).

Underlying the construct of L2 input and output in modified interaction is the message model of communication. In this model, the goal of conversational partners during a communicative event is the successful sending and receiving of linguistic tokens. Studies of L2 interaction reflect this theoretical orientation by defining the negotiation process from the perspective of the conduit metaphor of communication; that is, message transmission and reception (Pica, 1987; Porter, 1986; Doughty & Pica, 1986; Ehrlich, Avery, & Yorio, 1989; Pica, et al., 1989). This paper argues that framing the study of L2 interaction in the message model of communication masks fundamentally important mechanisms of L2 development and reduces the social setting to an opportunity for "input crunching" (Donato, 1988). In the end, the social context is impoverished and undervalued as an arena for truly collaborative L2 acquisition. As Savignon (1991) points out, where meaning appears fixed, immutable, to be sent and received, what is lost is the collaborative nature of meaning making.

The message model, predicated upon the conduit metaphor of

communication, is limited in its ability to explain linguistic interactions. The problem with this theoretical orientation is that it only *superficially* recognizes the influence of the social context on individual linguistic development. More specifically, it claims that although individuals are socially situated, the process of L2 acquisition remains the solipsistic struggle to receive, analyze, and incorporate input into developing linguistic systems. The development of interlanguage grammar remains an abstract, solitary process hidden in the heads of individuals rather than concretely available in the social relationships among learners (Newman, Griffin, & Cole, 1984; Forman & Kraker, 1985). As Vygotsky claimed, however, all cognitive development is first and foremost interpsychological; that is, it arises as a result of the interaction that occurs between individuals engaged in concrete social interaction (Wertsch, 1985).

Politzer's (1974) arguments against abstracting human psychological activity in favor of concrete psychology are relevant to this issue. Politzer states that the problem with abstract approaches to the psychology of human conduct is that they *disregard the individual* in their effort to amplify and categorize processes. As a result, experimental methods are, at the same time, driven too far and not far enough. Too far, because researchers never seem content with the rigor of their method, with the observational details, and accordingly overspecialize their object of study. Not far enough, because one has to drive the experiment to its end, to the very moment in which the drama is encountered. At this point, the researcher is still required to analyze this factual case as found in the particular form in which it unfolds. Politzer goes on to argue that there is a need for an approach that investigates the drama in its concrete actuality and particularity. Van Lier (1988) echoes in part this concern when he states that present research on the discourse of NNSs refers only generally to features of interaction, in this case repair strategies, without offering an explanation of the purposes of these collaborative utterances.

The development of L2 skills in the social context is far more complex than the present approach to the topic acknowledges. Morrison and Low (1983, p. 232) contend that to understand L2 production, we must observe the utterance-building process as it unfolds in real time. Trusting "hard" data from interaction studies, as Forman and Kraker (1985, p. 27) insist, obscures the cognitive processes that are enacted on the social plane during an experimental treatment.

In peer problem solving, for example, it is often the case that

actions are goal-directed and oriented toward co-constructing an implicit understanding of the task and a set of procedures for solving it (Forman & Kraker, 1985, p. 26). However, in the case of L2 interaction studies, these cooperative actions are not reported since referential communicative tasks yield few, if any, opportunities to collaborate. By externally defining the goals of the experimental task to the sharing of pictorial or verbal information, individuals are coerced into engaging in communicative conduits without the rich network of social support typical of real world learning interactions (Rogoff, 1990). As Bronfenbrenner (1977, p. 513) states, the results of experiments such as these are by-products of short-lived and unfamiliar experiments requiring strange people to do strange things to strangers for the briefest possible period of time.

ACTIVITY THEORY AND THE SOCIAL CONTEXT[1]

Activity Theory (Wertsch, 1979b) directly addresses the issue of individual development, activity, and the social context. In its attempt to grasp the nature of activity, a basic principle of Activity Theory is the claim that human purposeful activity is based on motives; that is, socially and institutionally defined beliefs about a particular activity setting. The theory specifies that to explain the activity of individuals requires uncovering the motive and the interrelationship of this motive with the selection of goal-directed actions and their operational composition. The individual's motive determines which actions will be maximized and selected and how they will be operationalized in a particular setting.[2] Further, the operational composition of a motivated action is believed to be adaptive to physical conditions and material circumstances.

This principle of the theory may elucidate several conclusions inferred from L2 interaction studies and complicate others. According to Activity Theory, variance in motive during communicative activity implies variability in the operational composition of the

[1] The purpose of this section is to briefly highlight the major tenets of Activity Theory. It is not intended to introduce or debate the various interpretations the theory is currently receiving.

[2] See Wertsch, Minich, and Arns (1984) for an example of how Brazilian mothers vary in operationalizing the task of model building with children. They argue that the motive for activity, in this case the belief that the model building session is either a labor activity or school activity, has a significant impact on the way these adults approach problem solving with their children.

activity. The motive shapes the communicative event by maximizing one set of linguistic actions over another. For example, the motive could determine cultural or gender specific interaction patterns (Gass & Varonis, 1985), focus on specific levels of language to negotiate, for example, phonological, semantic, or morphosyntactic features (Swain, 1985; Pica & Doughty, 1985; Wesche & Ready, 1985), or ways of dealing with the imposition of the task demands quickly or effortlessly (Ehrlich, Avery, & Yorio, 1989). The point is that the participants' motives shape and guide the particular activity, be it in the laboratory, the classroom, or the street. The motive of the individual, rather than that of the researcher, determines how actions will be constructed, as well as their functional significance. Thus, the variability of activity (that is, the interrelationship of motives, goals, and operations) needs to be taken into consideration when investigating L2 interaction.[3] This theoretical perspective differs significantly from studies that focus solely on the operational composition of speaker output.

Another important concept in Activity Theory that is relevant to learning in the social context is *internalization*. For Vygotsky (1978), social interaction is a mechanism for individual development, since, in the presence of a more capable participant, the novice is drawn into, and operates within, the space of the expert's strategic processes for problem solving. More specifically, the dialogically constituted interpsychological event between individuals of unequal abilities is a way for the novice to extend current competence. During problem solving, the experienced individual is often observed to guide, support, and shape actions of the novice who, in turn, internalizes the expert's strategic processes. The notion of internalization finds support in the work of Palincsar and Brown (1984) on the training of reading strategies through guided participation in hypothesis generation, evaluation, and revision, and the work of Tomasello and Herron (1989) on expert feedback during learner hypothesis testing in second language grammar lessons.

The concepts of motive and internalization emphasize the importance of attributing a more dynamic role to the social context than

[3] Although not invoking Activity Theory as an explanatory framework for her findings, Kinginger (1990) reports on the repair sequences in learner-learner conversations in an intermediate French language class. In her study, she found that if learners assumed that conversational tasks were form-oriented, their repair sequences were other-directed and mimicked that of their teachers. On the other hand, if tasks were believed to be open-ended and did not explicitly focus on form, a greater amount of self-monitoring and self-repair was reported to occur.

has yet been achieved in the literature on interaction and L2 acquisition. Although it is a truism to claim that knowledge is constructed actively by the learner, this process often takes place in a variety of ways and with the help of another. According to Activity Theory, the individual's creative construction process of knowledge acquisition suggests, as well, socially mediated activity. As Ellis (1985) has rightly pointed out, simply counting conversational adjustments in search of understanding the process of input may be inaccurate. To this it could be added that to provide a complete picture of the effects of social interaction on individual L2 development requires abandoning the barren notion that the function of L2 interaction is to give the learner access to the hidden black box.

CONSCIOUSNESS AND L2 DEVELOPMENT

Recently some second language researchers have begun to recognize the dimension of consciousness and cognition in the language learning process. This shift in focus from subconscious to conscious cognitive processes is revealed in the studies of learner strategies (Oxford, 1990), research on conscious planning and interlanguage variation (Crookes, 1989), and consciousness raising through systematic attention to the formal regularities of second language structure (Rutherford & Sharwood-Smith, 1988).

This recent interest in consciousness also brings with it the need to reassess assumptions and beliefs concerning the role of social interaction in L2 development. If consciousness is to become the object of study in investigations of L2 acquisition, then the social context exerts and even greater influence than previously believed. For Vygotsky (1986), consciousness is *co-knowledge*; the individual dimension of consciousness is derivatory and secondary. To account for this phenomenon requires studies that capture the evolving and dynamic features of interaction that allow individuals to change and be changed by the concrete particulars of their social context (Rommetveit, 1985). This perspective differs fundamentally from the current view that maintains that social interaction provides opportunities to supply linguistic input to learners who develop solely on the basis of their internal language processing mechanisms. In contrast, the Vygotskian position assigns to social interaction a developmental status; that is, development is situated activity.

In this vein, Lave (1988), following Vygotsky and his colleagues, points out that what we call learning and cognition is a complex

social phenomenon. If this is so, studies of verbal interactions in which participants are observed in the process of structuring communicative events jointly, and according to their own self-constructed goals, will provide important insights into the development of linguistic competence.The focus should be, therefore, on observing the construction of co-knowledge and how this co-construction process results in linguistic *change* among and within individuals during joint activity. In this way we can begin to answer the question of how negotiation arising from interaction impacts on L2 development.

PURPOSE OF STUDY

The purpose of this study is twofold. First, the study is an attempt to illustrate how students co-construct language learning experiences in the classroom setting. To this end, students were observed working on an open-ended classroom task that was familiar to them. No attempt was made to coerce the use of L2, to influence the process of task completion, or to structure the interaction in terms of requisite steps or focus of attention (that is, the focus on form or meaning). The decision for planning and structuring the activity was surrendered to the students.

Second, this study attempts to uncover how L2 development is brought about on the social plane. Following Vygotsky's developmental theory, it is hypothesized that learners can, in certain circumstances, provide the same kind of support and guidance for each other that adults provide children (Forman & Kraker, 1985). Specifically, the study seeks to answer the question of whether learners can exert a developmental influence on each other's interlanguage system in observable ways. That is, rather than to theorize that interaction has the potential to result in L2 development, this study attempts to examine how social interactions in the classroom result in the appropriation of linguistic knowledge by the individual.

METHOD

The protocols in this study are taken from a larger study on collaborative planning (Donato, 1988) among third semester students of French at an American university. The three students in the group under study had worked together in class for a period of

ten weeks on a variety of small group projects before the data were collected. They knew each other well, enjoyed working on projects together, and seemed to assume a collective orientation to problem solving. Moreover, their discourse often reflected that of a single speaker, further supporting their highly collective orientation to their work. This type of discourse is generally characterized by the lack of overt turn-taking discourse markers, the discursive predominance of comment overt topic, significantly more occurrences of "we" over "I" and "you" when addressing each other, and a flexibility in interchanging discourse roles (Donato, 1988). For this reason, the term *collective* is used to distinguish these students from loosely-knit *groups* in the same class (Petrovsky, 1985).

Their interactions, which were audiotaped and later transcribed for analysis, represent a one-hour planning session for an oral activity.[4] In the protocols to follow, the students helped each other plan what they anticipated they would need in order to participate in the oral activity that would take place during the next class.

THE METAPHOR OF SCAFFOLDING

Before beginning the analysis of the protocols, it is necessary to discuss the discursive mechanism of scaffolding. This concept, which derives from cognitive psychology and L1 research, states that in social interaction a knowledgeable participant can create, by means of speech, supportive conditions in which the novice can participate in, and extend, current skills and knowledge to higher levels of competence (Greenfield, 1984; Wood, Bruner, & Ross, 1976). According to Wood, Bruner, and Ross, scaffolded help is characterized by six features:

[4] The oral activity is based on a scenario by Di Pietro (1987). Students were asked to stage to the class the conclusion of a scenario in which a husband purchases a fur coat for another woman. The follow-up interaction reported in this study is the encounter between the husband and the wife after the wife discovers his actions. The one-hour planning session was intended to allow the students to decide on the scenario conclusion. The students were also instructed that their presentation was not to be memorized. As in Crookes' (1989) experiment on interlanguage variation, the students were told to discuss or make notes in French, but were specifically instructed not to attempt to write out everything they would say. They were also told that their presentation would be made without the aid of their notes. In contrast to Crookes' experiment, the planning represents a collective effort rather than individual work.

1. *recruiting* interest in the task,
2. *simplifying* the task,
3. *maintaining* pursuit of the goal,
4. *marking* critical features and discrepancies between what has been produced and the ideal solution,
5. *controlling* frustration during problem solving, and
6. *demonstrating* an idealized version of the act to be performed

Additionally, the metaphor implies the expert's active stance toward continual revisions of the scaffold in response to the emerging capabilities of the novice (Rogoff, 1990). For example, a child's error or limited capabilities can be a signal for the adult to upgrade the scaffolding. Conversely, as the child begins to take on more responsibility for the task, the adult dismantles the scaffold, indicating that the child has benefited from the assisted performance and internalized the problem-solving processes provided by the previous scaffolded episode. According to Wertsch (1979a), scaffolded performance is a dialogically constituted interpsychological mechanism that promotes the novice's internalization of knowledge co-constructed in shared activity.

This concept is relevant to this study, since it will be shown that collaborative work among language learners provides the same opportunity for scaffolded help as in expert–novice relationships in the everyday setting. This finding differs from the majority of research on scaffolding, since it is assumed that scaffolding occurs in the presence of an identifiable and stable expert participant and that this help is unidirectional, that is from knower to non-knower.[5]

Regarding L2 acquisition, the concept of scaffolding has only been reported, to my knowledge, in Hatch's (1978) early research on L2 interaction and, more recently, in Van Lier (1988). Van Lier states that language teaching methodology can benefit from a study of L1 scaffolding to understand how classroom activities already

[5] Ochs (1990) has argued that the problem with former accounts of the acquisition of knowledge has been that the novice has little impact on the developed systems of competent speakers/members of a society. She claims that both expert members and novices use language in ways to create contexts of shared understanding. Ochs states that *both* novices and more competent speakers transfer their structures of knowledge and understanding vis-à-vis discourse and culture.

tacitly employ such tactics. No attempt has been made, however, to look qualitatively at this discursive phenomenon in present studies of learning interaction, input, and L2 acquisition. The study of scaffolding in L2 research has focused exclusively on how language teachers provide guided assistance to learners (Ulichny, 1990; Wong-Fillmore, 1985; Ellis, 1985), or how NSs dispense linguistic structures in vertical discourse to the NNS (Hatch, 1978). This study is an attempt to discover if, during open-ended collaborative tasks, second language learners *mutually construct* a scaffold out of the discursive process of negotiating contexts of shared understanding, or what Rommetveit (1985) calls *intersubjectivity.*

ANALYSIS OF PROTOCOLS

This study of learner interaction is developmental to the extent that it seeks to uncover the mutual effects of learners on each other's interlanguage system. For this reason, a microgenetic analysis is used. As defined by Wertsch and Stone (1978), microgenesis refers to the gradual course of skill acquisition during a training session, experiment, or interaction. The need for microgenetic analysis in the study of human development was most forcefully and eloquently stated by Vygotsky (1978) in his argument against restricting ourselves to studying human development, including linguistic development, *postmortem,* or what he referred to as the study of "fossilized behavior." A microgenetic analysis allows us to observe directly how students help each other during the overt planning of L2 utterances and the outcome of these multiple forces of help as they come into contact, and interact, with each other. The power of this collaborative experience has support in the developmental theory of Vygotsky (1978), which maintains that when learners are actively assisted in dialogic events on topics of mutual interest and value, individual and conceptual development occurs.

In this study, scaffolding is operationalized according to the definitions of Wood, Bruner, and Ross (1976). In order to visualize the scaffolded help and to trace its influence on the collective, the help sequences are diagrammed on two axes. The horizontal axis represents interactional time, or the actual time it took the group participants to solve their problem and arrive at a consensus. The vertical axis is an ordinal scale illustrating the constituent parts of the interaction in question from its inception to its resolution. The order of linguistic elements on the vertical axis matches that

observed in the group members and reflects the structure of the interaction as it occurred in real time.

The numbers 1, 2, and 3 refer to the three participants themselves. Next to each number is a positive or negative sign. The positive sign represents correct, but not necessarily complete, knowledge; the negative sign reflects incomplete or incorrect knowledge. The sequence of numbers is faithful to the other in which utterances appeared in the conversation. Matching the position of the speaker with the vertical and horizontal axis reveals the contents of the utterance, its correctness or incorrectness, and its sequential relationship to other utterances in the interaction. In addition, the influence of one student on another can be visualized by following the course of negatively and positively marked utterances.

Before turning to the protocols, one caveat is in order. As will be shown, the students negotiate quite spontaneously, among other things, the form of utterances. The selection of these protocols for analysis is not intended, however, to imply that, when left to their own devices, linguistically homogeneous students define their interactions *only* on the basis of the formal properties of the language. These interactions are in fact only another type of negotiation—the negotiation of form rather than meaning (Long, 1991). The critical point is that when students have the opportunity to help each other during nonstructured tasks and on the basis of internal goals for activity, they are observed to create a context of shared understanding in which the negotiation of language form and meaning co-occur. In other words, focusing on form was not a requirement of the task but rather how the students operationalized their motive for activity at the particular point in the interaction. The three protocols for microanalysis represent, therefore, the internally generated and naturally occurring subgoal of the total task.[6]

[6] This is a critical point, since the majority of research on L2 interaction overlooks the transforming potential of human activity (Asmolov, 1986). During experimental tasks, subjects are manipulated by the experimental condition itself. This study attempted to avoid such manipulation to gain insight into the internal mental activity of L2 learners. As Newman, Griffin, and Cole (1984) point out, the "laboratory" simply cannot capture the wide variety of content, different degrees of familiarity, various ways of dividing up and carrying out labor, and reliance on conversation as a medium of expression during conversation.

Protocol

A1 Speaker 1 ...and then I'll say...*tu as souvenu notre anniversaire de marriage*...or should I say *mon anniversaire*?

A2 Speaker 2 *Tu as*...

A3 Speaker 3 *Tu as*...

A4 Speaker 1 *Tu as souvenu*..."you remembered?"

A5 Speaker 3 Yea, but isn't that reflexive? *Tu t'as*...

A6 Speaker 1 Ah, *tu t'as souvenu.*

A7 Speaker 2 Oh, it's *tu es*

A7 Speaker 1 *Tu es*

A9 Speaker 3 *tu es, tu es, tu*...

A10 Speaker 1 *T'es, tu t'es*

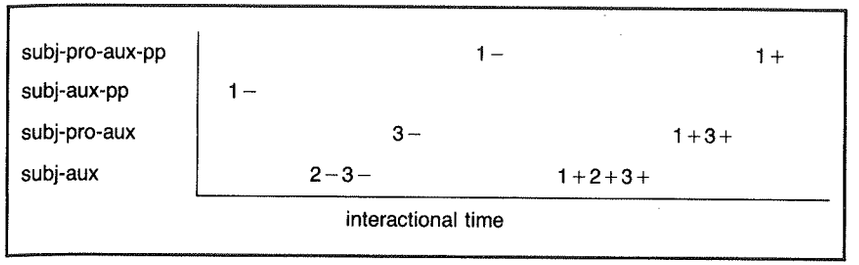
A11 Speaker 3 *tu t'es*

A12 Speaker 1 *Tu t'es souvenu.*

Protocol A is an attempt to render "you remembered" into French. The compound past tense formation of reflective verbs in French presents complex linguistic processing, since students are required to choose the auxiliary *être*) instead of *avoir*, select the correct reflexive pronoun to agree with the subject, form the past participle, which in this case is an unpredictable form, and decide if, and how, the past participle will be marked for agreement with the subject. More importantly, the complexity of the verb formation in question can be defined internally on the basis of the extent of processing required of the students to reach an appropriate French utterance. Additionally, this protocol represents the internally generated goals and subgoals of the learners themselves and not the requirement of the task for formal accuracy. That is, the students could have stopped their search for expressing "you remembered" on line A4. However, Speaker 3 sets the goal, or more specifically one of several subgoals of the total task, by questioning the accuracy of the utterance. The need to verify the accuracy of the utterance appears quite spontaneously and is attended to jointly by the other two students. This joint work is illustrated in Figure 2.1.

That the students collaboratively attend to Speaker 1's initial phrase, and Speaker 3's questioning of its legitimacy, is clearly shown here. Remarkably, however, no student alone possesses the

FIGURE 2.1 Scaffolded Help for "You Remembered"



ability to construct the French past compound tense of the reflexive verb "to remember." Each student appears to control only a specific aspect of the desired construction. Speaker 1, for example, produces the correct past participle (A1) but the incorrect auxiliary verb. Speaker 2 recognizes the verb as reflexive (A5) but fails to select the appropriate auxiliary *être*. Speaker 3, on the other hand, understands the choice of the auxiliary for reflexive compound past tense forms but does not include the correct reflexive pronoun into his version of the utterance (A7). At this point in the interaction Speakers 1 and 2 synthesize the prior knowledge that has been externalized during the interaction and simultaneously arrive at the correct construction (A9–12).

The interesting point here is that these three learners are able to construct collectively a scaffold for each other's performance. Following the definition of Wood, Bruner, and Ross (1976), they jointly manage components of the problem, mark critical features of discrepancies between what has been produced and the perceived ideal solution (A5, A7, A10), and minimize frustration and risk by relying on the collective resources of the group.

It also appears that the collective scaffold is built on negative evidence.That is, correct knowledge is subsequently secured from incomplete and incorrect knowledge. The interaction shows quite dramatically the dialectical process of collective argumentation (Miller, 1987), which surfaces in the social context. In this regard, if language learning and language processing are thought to be achieved through the competition and resolution of the morpho-syntactic and lexical features of the target language (Gass, 1987; MacWhinney, 1987), a fruitful line of investigation is to observe these competitive, dialectical processes as they unfold and are externalized in collective activity.[7] As Vygotskian theory maintains,

[7] For a discussion of the problems of observing mental processes, see Donato and Lantolf (1990), Lantolf (1990), Lyons (1987).

the origin of the individual's higher mental functions is situated in the dialectical processes embedded in the social context (Vygotsky, 1978).

The affective markers in this interaction, "Oh," "Ah," and "Yea," reveal, as Schiffrin (1987) points out, task and information management. They are also indicators of orientation to the task (Donato & Lantolf, 1990), thus signifying the point at which joint focus of the attention has been achieved. Each of the participants in this interaction uses one of these affective markers (Speaker 3 in A5, Speaker 1 in A6, and Speaker 2 in A7) indicating the presence of distributed help and mutual orientation to the task. This is not surprising, since, as previously mentioned, these students operationalize their activity collectively as revealed in the high degree of topic continuity and a discourse structure reminiscent of that of a single speaker. Their collectivity is also exhibited by their ability to establish intersubjectivity (Rommetveit, 1985). The convergence of affective markers appears at the critical point in the interaction, when negative evidence is transformed into positive knowledge (A5, A6, A7), indicating a point of development for the participants.

These students have constructed for each other a *collective scaffold*. During this interaction, the speakers are at the same time individually novices and collectively experts, sources of new orientations for each other, and guides through this complex linguistic problem solving. What is most striking is that although marked individual linguistic differences exist at the onset of the interaction, the co-construction of the collective scaffold progressively reduces the distance between the task and individual abilities.

Protocol B provides further evidence of the construction of the collective scaffold among learners.

Protocol B

B1	Speaker 1	*Dé...décou...* How do you say "discovered?"
B2	Speaker 2	*découvert.*
B3	Speaker 1	*J'ai découvert*
B4	Speaker 2	He [referring to the teacher] just told me
B5		that today
B6	Speaker 1	*J'ai...* I have discovered...*J'ai découvert.*
B7	Speaker 2	*J'ai découvert...* I have discovered
B8	Speaker 3	(whispering) *J'ai découvert...vert*
B9	Speaker 1	OK...*J'ai découvert, uhm, votre surprise.*

In Protocol B the same students as in Protocol A are attempting to express "I discovered" in French. Although the answer is supplied relatively early in the interaction (B1-B3) by the direct reply of Speaker 2 (B2) to Speaker 1's request for assistance (B1), the resulting utterances indicate that Speaker 2's utterance functions to demonstrate the idealized version of the act to be performed. On the structural level, it could be argued that Protocol B is a paradigm case of vertical structure, or the novice's incorporation of chunks of speech from the preceding discourse (Ellis, 1984, 1985; Wagner-Gough, 1975). However, on the developmental level, Speaker 2's model of the utterance initiates language play utterances or, more precisely, cognitive dialogue (Lantolf, 1990) in which the past participle is repeated (B3-8), separated into syllables (B7), and subvocalized (B8) by the collective. The psycholinguistic function of Speaker 2's contribution is barely captured if the interpretation focuses solely on how the communicative channel is kept open by means of imitation within the vertical structure of discourse. Ellis's (1986, p. 156) warning that output should never be considered in isolation, but always in context, is clearly illustrated in this protocol. Figure 2.2 represents the developmental influence of Speaker 2's help on the collective.

The discourse in Protocol B reflects Wood, Bruner, and Ross' (1976) definition of the functions of the tutor in scaffolding a child's performance. The diagram reveals the rapid diffusion of Speaker 2's idealized version of the task to be performed throughout the collective. The diagram also represents the development of Speaker 1 from the beginning to the end of the joint activity (B1, 3, 6, 9). The actions of Speaker 1 and 2 are clearly beyond mimicking the repair trajectories typical of teacher-led classroom discourse but are indications of self-initiated attempts to control and internalize the needed knowledge.

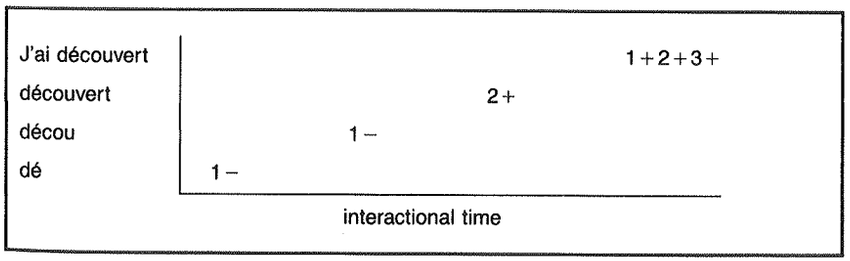


FIGURE 2.2 Scaffolded Help for "I discovered"

The subvocalized utterance (B8) and intersentential translation (B6) are directed to no one other than the speakers themselves and represent private speech. The occurrence of private speech, as documented by Vygotsky (1986), Zivin (1979), and Kohlberg, Yaeger, and Hjertholm (1968), is stimulated and developed by a child's early social experiences, contrary to intuitive notions that private speech is performed in isolation. Within the Vygotskian paradigm, private speech is a discursive developmental mechanism enabling children to push the limits of their current mental ability. In other words, speech to oneself, which overtly expresses the requisite actions to successfully complete the task (in this case the need to produce in French the meaning of "discovered"), is a means of self-guidance in carrying out an activity beyond one's current competence.

In terms of the linguistic development made by Speaker 1 and 3, it appears that the scaffolded help provided by Speaker 2—that is, the model of the ideal answer for the collective—initiated private talk functioning to organize, rehearse, and gain control over their verbal behavior. What is interesting, however, is that unlike children, who frequently display private speech during language learning and problem-solving activities, it has at least been assumed that adults rarely exhibit this behavior in the presence of others.[8] If Speaker 1 and 3 are engaging in private speech, which appears undoubtedly to be the case, it has been stimulated by Speaker 2. Thus, the social context foments the private speech of Speakers 1 and 3, and accordingly provokes their linguistic development and the internalization of collective knowledge.

The preclosing use of "OK" offers the chance to reinstate the earlier topic (Speaker 1 in B8) prior to conversational closure (Schegloff & Sacks, 1973). That the students have attained a collective orientation to the task is indicated in the clustering of utterances containing the correct past participle in B6-8 (see Protocol B). The overall operational composition of the activity also exhibits the motive, or assumption, that for these students, the social setting is indeed the legitimate domain for individual progress in language learning.

[8] See Lantolf (1990) for a discussion of private speech and the problem of observing this phenomenon when studying the L2 acquisition process in adults. Based on this study, it appears that L2 collective activity provides the opportunity to observe adult private speech that otherwise remains hidden from the probing eye of the researcher.

Although, at first glance, this protocol appears to be an English translation into French followed by borrowing in vertical discourse, its analysis reveals a complex fabric of interindividual help and the activation of developmental speech not captured within the message model framework. If the negotiation of meaning is defined as mutual efforts at comprehending and clarifying utterances, then Protocol C explains the psycholinguistic influence of these discourse modifications on the linguistic development of conversational participants.

Further support for linguistic development through scaffolded help among this collective is visible in Protocol C, in which Speaker 2 attempts to express the idea that "if he tells her the truth, she (his wife) will divorce him."

Protocol C

C1	Speaker 2	OK, help me say this...and I can say...
C2	Speaker 1	*Rien*
C3	Speaker 2	*rien, rien,* that's right, *rien parce que...*
C4	Speaker 3	*parce que...*
C5	Speaker 2	*si je...lui dis...dire...?*
C6	Speaker 1	*dis, si je lui dis la vérité,* the truth...
C7	Speaker 2	*si je lui dis...*
C8	Speaker 3	*si je lui dis...*what was that? *La* what?
C9	Speaker 2	*la vérité*
C10	Speaker 1	*la vérité.*
C11	Speaker 3	*la vérité* [whispering to himself], *la vérité.* [second repetition almost inaudible]
C12	Speaker 1	*v-e-r-i-t-e, accent aigu...*
C13	Speaker 3	*si je lui dis la vérité...*
C14	Speaker 2	*elle me dit...* [The co-construction continues in French until Speaker 2 states the following]
C15		*elle va, elle va me divorcer.*

Speaker 2's explicit request for assistance (C1) recruits the interest of the others in the task and begins the scaffolded interaction. The request for assistance is not expressed as an interrogative but is embedded in an imperative, indicating that Speaker 2

realizes that help is, indeed, available. This is a dialogic indication that Speaker 2 defines the task on the basis of this motive. In C2–C7 Speaker 2 is supported and guided during his on-line planning through the efforts of Speaker 1 and 3. Speaker 1's use of "rien" (C2) and Speaker 3's use of "parce que" (C4) appears to disinhibit Speaker 2 and initiate his linguistic processing (C5). Disinhibition is clearly in line with the function of scaffolding, since it is one way of allowing a novice to begin or maintain pursuit of the task goal and control frustration during problem solving. Without the disinhibition offered by Speaker 1, Speaker 2 may have abandoned the task entirely.

What is also interesting is the dual scaffolding occurring in this interaction. At the onset of the interaction, Speaker 1 and Speaker 3 scaffold the performance of Speaker 2 by disinhibiting his linguistic processing. Later, Speaker 1 resolves the conflict between two competing verb forms, "dis" and "dire," in the production of Speaker 2. In the middle of the interaction, Speaker 1 and Speaker 2 scaffold the performance of Speaker 3 by providing three models of the lexical item "vérité:, which include its spelling (C8-C12). Private speech by Speaker 3 is also observed in C11 (see Protocol C). At the end of the interaction (C13), Speaker 3 is observed to synthesize the prior help he received (C9–10) and supplied (C4) in the fully expanded utterance. This utterance is completed by Speaker 2 and the utterance expansion of "if I told her the truth, she is going to divorce me" is unchallenged, thus representing a collective consensus. Figure 2.3 depicts the process of development during this peer-scaffolding episode.

As in Protocol A, the dialectical process of development is revealed. A thesis and subsequent antithesis occur in Speaker 2 when he questions the competing forms of the verb ("dis...dire"). The

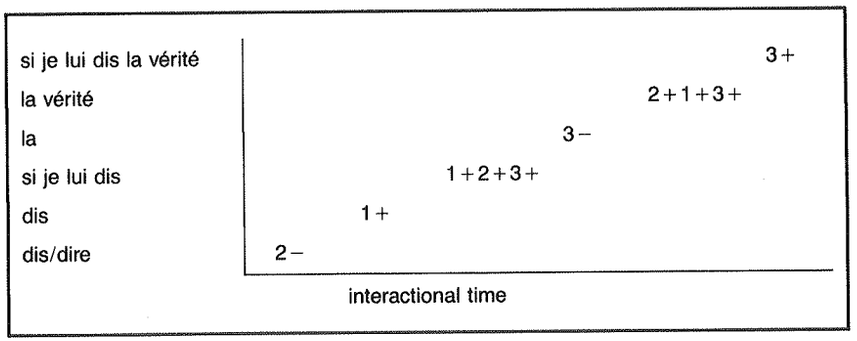


FIGURE 2.3 Scaffolded Help for "If you told him the truth"

competition is resolved and a synthesis is provided by Speaker 1. Through his repetition (C8), Speaker 3 adopts the synthesis embodied in the utterance "si je lui dis" but introduces a new antithesis by questioning the word "vérité" (C8). Both Speakers 1 and 2 provide Speaker 3 with the necessary word (C9–10) resulting in a new synthesis for Speaker 3 embodied in the expanded utterance (C13). Speaker 3's synthesis is accepted as thesis by Speaker 2, who expands and completes the utterance (C14–15). The two shifts from negative evidence to positive evidence are indicative of the process of competition during linguistic development. The scaffolding engendered by the social context is, therefore, one way that this linguistic competition is resolved.

DISCUSSION AND CONCLUSION

It has been shown that learners are capable of providing guided support to their peers during collaborative L2 interactions in ways analogous to expert scaffolding documented in the developmental psychological literature. It has also been posited that collective scaffolding may result in linguistic development in the individual learner. This fact, however, requires independent validation. To discover if the collective scaffolding exhibited in these protocols brings about independent L2 performance at a later time when support is no longer available, the oral activity was recorded and transcribed for analysis. It is assumed that if the same students who had previously engaged in collaborative planning reveal the appropriate use of these collective utterances during the oral activity, evidence for individual linguistic development deriving from social interaction is supported.

In all, 32 cases of scaffolded help were documented in the hour planning session. Of these 32 cases, all but eight of the scaffolded utterances were used during the performance portion of the activity. This means that the contents of the 24 scaffolded help sequences were observed at a later time in the independent performance of the students when help was no longer available. This is not surprising in light of Vygotskian theory, which argues that individual knowledge is socially and dialogically derived, the genesis of which can be observed directly in the interactions among speakers during problem-solving tasks.

Additionally, the independent use of collaboratively constructed utterances is not limited solely to the individual who initially requested the help during the planning session. For example, the

word "découvert" (see Protocol B) is used in the speech of Speaker 1 who requested the help. However, as a peripheral participant, Speaker 3 also appears to have benefited from the scaffolded help as demonstrated by his use of "découvert" during the oral activity.

Speaker 1: J'ai *découvert* ton secret mon amour.

(later in the interaction)

Speaker 3: Comment est-ce que tu l'as *découvert*?

Recall that it was Speaker 2 who modeled the idealized solution to the problem (B2). Clearly, Speakers 1 and 3 benefited from, and internalized, the help supplied by Speaker 2 during the planning session. In this way, independent evidence is given that peer scaffolding results in linguistic development within the individual. Space does not permit a detailed analysis of all the scaffolded episodes and subsequent occurrences of this knowledge in the individual during independent linguistic performance. However, the results of this study indicate that scaffolding occurs routinely as students work together on language learning tasks. The effects of this help are substantial enough to redefine and further cultivate the role played by the social context in L2 development.

This study has underscored the need to account for, and explain, the rich fabric of interindividual help that arises in social interactions. Second language learners appear quite capable and skillful at providing the type of scaffolded help that is associated in the developmental literature with only the most noticeable forms of expert–novice interaction, such as parent and child (Wertsch, 1979a), teacher and student (Wong-Fillmore, 1985), NS and NNS (Hatch, 1978), or master and apprentice (Greenfield, 1984; Goody, 1989; Singelton, 1989). Discussions of the potential benefit of guided participation (Rogoff, 1990) and learning apprenticeships (Brown, Collins, & Duguid, 1989) in the classroom have recently become fashionable. It appears useful, therefore, to consider the learners themselves as a source of knowledge in a social context.

The findings of this study also suggest that changes in linguistic systems are brought about in ways that go beyond mere input crunching by the individual learner. Focusing the investigation on the conversational adjustments of language learners will inevitably obscure the functional significance of collaborative dialogic events. The microgenetic analysis of collective activity has revealed that in the process of peer scaffolding, learners can expand their own L2 knowledge and extend the linguistic development of their peers.

The implication for this finding is that the obdurate nature of some language tasks inhibit learners from engaging in dialogically constituted guided support, or collective scaffolding. By recasting the role of learners during social interaction, the current theoretical position supporting group work in second language classrooms will be expanded beyond simple opportunities to exchange linguistic artifact to that of the collective acquisition of the second language.

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3

Linguistic Accommodation With LEP and LD Children*

Linda Schinke-Llano

Department of English
Millikin University
Decatur, IL

INTRODUCTION

It has long been noted (Ferguson, 1971) that adjustments in speech occur with particular groups of interlocutors: children, the elderly, the hearing impaired, and foreigners, for example. A considerable body of literature, in fact, has developed with respect to two of those categories, namely children and foreigners.[1] Subsumed under the classifications of baby talk (BT) and foreigner talk (FT), numerous studies have attempted to identify the characteristics of these simplified registers. Early studies in both areas tended to focus on

* The author would like to thank James V. Wertsch of Clark University for his assistance in the experimental designs of both studies reported here.

[1] Researchers have also begun to focus on speech to the elderly, as is evident in the studies by Coupland, Coupland, and Giles (1991); Coupland, Coupland, Giles, and Henwood (1986); and Hamilton (1986).