Lenguas Modernas 24 (1997), 113-121
Universidad de Chile

LANGUAGE LEARNING AS A MODEL OF CONTENT LEARNING IN A COLLABORATIVE UNIVERSITY CLASS

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Principles derived from the manner in which students master subject matter in a collaborative setting match rather closely principles used to describe how language is learned. These language learning principles include the fact (1) that no one learns a language without interaction with other humans, the fact (2) that negative affect restricts language learning and positive affect facilitates language learning, the fact (3) that human beings learn language from a mal-formed corpus of the object to be learned and the fact (4) that students learn language only from comprehensible input. These four principles, derived from studies in language acquisition or learning, provide an explanation for the effectiveness of collaborative learning.

Since 1987, a model of classroom management utilizing collaborative learning at the university level has been under development. The artifacts in this model, first reported by this author (Ney 1991), included student management of class sessions, peer grading, and other motivational devices to foster student participation. In particular, students graded each other's quizzes and exams and took over as discussion leaders going over the text material for the class hour while their classmates were graded on the extent of their classroom participation. The term 'collaborative learning' usually describes a model of group instruction in which peers engage in "... the construction of knowledge ..." (Palincsar, Stevens and Gavelek 1989: 43). As such, this kind of learning differs from earlier methods such as group study and peer learning by virtue of the fact that it deals with knowledge as a socially held phenomenon. From this point, proponents of collaborative learning would argue in this fashion: If knowledge is a socially held phenomenon, then it must be acquired through social (group) activiy. So then, current models of collaborative learning

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differ from earlier methods such as group study and peer learning in purpose and in philosophical outlook. Nevertheless, there are almost as many different collaborative learning models as there are researchers using them in classes (Janda 1990).

Burfee (1993: 21) states that "... the essence of collaboration will even be familiar to those who have worked with an intelligent, compatible committee ..." In these situations, Burfee notes, "... One person gets an idea, stumbles around with it a bit, and then sketches it out ..." Other people then run with the idea, changing it and adding to it. He insists that people who work in this fashion exceed what one person can do.

Nunan (1992: 3) states that "... collaborative learning entails students working together to achieve common learning goals ..." Since he finds support for his model in the works of Slavin (1983) and Sharan and others (1984), it is obvious that, in his mind, collaborative learning is in some respects similar to cooperative learning which, in turn, is contrasted to competitive learning. Collaborative learning is learning in which the students and teacher labor together, co-labor, to attain goals set in a class.

Since, in the project described here, students were collaborating in the management of the class, observations were made on the manner in which they conducted themselves in the class. These observations of the processes inherent in the student management led to certain principles derived from the manner in which students mastered subject matter in a collaborative setting. These principles seemed to match rather closely principles used to describe how language is learned. And, in turn, language learning principles seem to provide an explanation of why some practices, used in collaborative learning projects, are so effective. In particular, the fact (1) that no one learns a language without interaction with other humans matches the fact that collaborative learning is effective because it provides a good deal of student interaction. The fact (2) that negative affect restricts language learning and positive affect facilitates language learning matches the fact that students who express a positive affectual attitude towards the course learn the most from the course. The fact (3) that human beings learn language from a mal-formed corpus of the object to be learned matches the fact that student management of class hours produces errors both in content and form of the subject matter being covered but in no way inhibits learning. The fact (4) that students learn language only from comprehensible input. These four facts show that human cerebral mechanisms are designed for this kind of learning.

These four principles form the basis for recent emendations in the collaborative learning model used here. For the second of these, negative affect inhibits learning, cognitive dissonance exercises were provided for the students. (See below.) For the first of these, the attempt was made to make explicitly clear to the student discussion leaders that they were not to 'teach' the class but to lead the class in discussion. The third of these had more for the instructor than for the students. Since the human brain can master language perfectly from a less than perfectly formed corpus of sentences, so the students can master perfectly the content of any course from less than

perfectly presented data. This is not to say that the instructor should adopt a completely laissez faire attitude toward the management of the class. Rather, if a student made significant errors, the instructor would try to judge the impact of his intervention. If it was ascertained that the student might be embarrassed or the flow of the classroom discourse interrupted, then the instructor would make a correction at some propitious junction in the classsroom interactions not at the point that the error was made. In any case, students very often corrected their peers at the time of the problem.

Throughout this discussion, no attempt will be made to maintain a distinction between language learning and language acquisition although some methodologists have made such a distinction (Krashen 1989, Sadighi 1994, Mervis and Bertrand 1994, Epstein and others 1996) while others do not (Pica 1994, Bull 1994, Sheen 1994). Whether language is learned or acquired is irrelevant to the following discussion. Furthermore, second language learning (acquisition) will not be treated as different from first language learning (acquisition) although there are obvious differences between the two.

In any case, according to currently popular theories of language acquisition (learning), children learn language from mal-formed input and yet they do so with alacrity and accuracy. For instance, Chomsky has consistently maintained that children learn language from an essentially 'degenerate corpus' (Chomsky 1965 and 1975. Compare Clark and Thornton 1997). At first, this concept might seem trivial, not applicable to situations found in content learning at all. What teacher or textbook writer is going to consciously introduce students to mal-formed data? Even for the conventional classroom the concept might not be completely trivial because the material to be learned might not be mal-formed in content but it might be mal-formed in form, which is to say that even the best of teachers are not perfect in their presentation of materials. But for models of collaborative learning the situation is different. If students present material, it might be mal-formed both in content and form. This construct would suggest that, although the material presented might contain both well-formed and mal-formed data, the human brain is well equipped to separate the well-formed data from the mal-formed data as it does in language learning.

There is another sense in which the Chomskyan construct is true for content learning. Philosophically, it would seem that presenting all material as if it sprang full-grown and well-formed from the head of Zeus is counterproductive for the development of rational abilities in students for two reasons: (1) presenting theories and principles as though they are fully developed does not inculcate thinking abilities in students but rather teaches them to follow orthodoxies, and (2) such a presentation of theories and principles does not mirror the development of these theories and principles in any discipline. The currently held dicta in any discipline have been developed through the heat of controversy with opposing positions (Kuhn 1970, Johnson 1995), which later, in terms of the dominant theory, appear to be mal-formed. Thus it is maintained that teaching any discipline in the way that it is formed is good for the development of thinking scholars.

It is interesting that students in a collaborative class have expressed this viewpoint. One student, in a grammar class, stated the following:

> I really am learning a lot about Grammar. For example I never knew that there are different theories in Grammar, and that these theories are legitimate as long as you can prove it. In fact anything is legitimate as long as you can support it yourself: Boy, I wonder if all my English teachers knew about this. I doubt it.

Another student enunciated a similar concept stating:

> On the other hand, the philosophy that there is no one correct grammar of the English language is quite liberating. It is also inspiring that grammarians have questioned and challenged traditional grammar, a subject that has been so strongly upheld for so many years.
>
> Still it concerns me that nothing seems to be concrete anymore. Nothing is 'definitely true'. Everything I have been raised to believe, everything I have been taught is now being challenged... This class hasn't improved my English usage at all, but it has improved my ability and willingness to think for myself and to challenge ideas with which I don't agree.

This student again stated:

> [I feel] discomfort with the philosophy that there is no one correct grammar. The reasons behind this philosophy were that nothing seems to be concrete or definite anymore. I added that I couldn't decide which is more dangerous, believing firmly in things that are not definite, or exploring everything until you decide that nothing is definite. I have decided that the former is the more dangerous, because closed mindedness inhibits learning.

Yet a third student expressed the opposing viewpoint:

> One student asked what the correct way was to do something. The instructor replied (jokingly I think), "There is no correct way." Sensing the dissatisfaction with his answer, he then explained that if we were given absolutes we wouldn't learn how to think. I didn't know exactly what to think of his remark. It is a valid point, however, we are all adults in this class very capable of thinking for ourselves. The object of this course is not to teach us how to think or learn, that was taught in high school. Students go to college to be taught absolutes about their chosen field of study by professors who know what needs to be taught. The instructor is in possession of a wealth of knowledge concerning English grammar that would benefit any student of the English language. College students want to be told the absolutes so that they can study them and learn from them.

So then, it would appear that students are, for the most part, receptive of the general principle that content can be presented as 'mal-formed' data, that is, as theories and principles that have been formed in the heat of debate.

In both first and second language learning theories, it is generally agreed that, if there is no interaction, there is no learning of a language. In first language learning, the cases of the *Wild Boy of Averyon* (Lane 1976, Itard 1962) and *Genie* (Rymer 1993, Curtis 1977) are legendary. The theories of Brown (1977), Bruner (Kaye and Charney 1980) and others (Berk and Spuhl 1995, Schneiderman 1995, Seitz and Marcus 1976, Swain and Wesche 1975), which also require interaction as part of the language learning process, are almost as well known. In second language learning, the theories of Savignon (1972, 1981, 1983), Young (1988) and others (Crago 1993) are indicative of the fact that if language learners do not talk they do not learn a language. Interestingly, the use of interaction in University classes is not unproblematic. In the first place, most university classes are too large to be conducive to classroom discussion (Klein 1985). (See also Williams and others 1985, Akerhielm 1995, Horne 1970, Flinker 1972, and Robinson 1990.) In the building where I have done most of my teaching, the architect did all teachers a favor by limiting the size of most classrooms so that they could contain only thirty students, but a class of thirty students is not really conducive to good student interaction although such interaction is not impossible in such a class. In the second place, every class contains some students who are admittedly shy and do not wish to speak in class. In the third place, too much instructor intervention stifles interaction; too little, causes a laissez faire situation in which the lack of structure creates problems. The model of classroom instruction used here appoints student discussion leaders to avoid these problems. Nevertheless, some students complain.

One student commented:

> After a whole semester alternating between active participation and idle acceptance of mediocrity I often found that settling for the worst can really lead to the worst. This led to bad, argumentative class discussions where there was often no purpose of conversation or point to be proved (Student 1).

Another student complained about some classroom discussion, writing that:

> Class discussion, when properly officiated, can be a very effective learning device but when the discussion leads to an endless argument no one learns anything (Student 2).

(Instructor's note: The instructor generally let the discussions continue without interruption during the first weeks of the semester. Towards the middle and the end of the semester, more effort was made to provide limitations on debates so that they did not run endlessly.)

Other students state:

> I like the fact that there are many different points of view on how our discussion is held ... I have learned a lot because of the open discussion system this class has (Student 3) ... An apt description of [the collaborative] course ... would be, 'a true academic discourse ripe with dialectical entreaties.' In all the forty-five years

> of living that I have been privileged to have ever taken part in or been exposed to such an explicit and visual exercise in learning (Student 4) ... I am also partaking in some of the class discussions. I am very nervous to do it. I am not quite sure why. Every time I raise my hand to say something, I can feel my heart in my mouth as it pounds profusely. I know that I just need to get adjusted to the class and the way it's set up (Student 5) ... I really like the class. Everyone seems to really know who they are. Consequently we get all sorts of opinions in the class that makes class discussion worthwhile (Student 6).

So it is that students, on the whole, appreciated the fact that the class required lots of discussion and interaction between and among its members.

One student wrote:

> It was wonderful being part of this untraditional learning process. The majority of my classes are memorize for the moment, short term classes, but because of the manner in which we learned and the interaction it required, I believe this information will stay in my long term memory.

In second language learning theories, in particular those put forward by Krashen (1983, 1985, 1989), the presence of the affective domain is acknowledged. In short, concepts associated with this area of knowledge simply state that people do not learn languages if their affect is not positive towards the language they are learning, the process of learning and the people who speak the language. If this construct is applicable to learning in the content area, it would also state that the attitude of students towards the class in which they are studying and towards the subject matter should be positive. To aid students in developing positive attitudes the first part of each class hour was devoted to cognitive dissonance exercises, in which the students talked out problems that they had with the subject matter or the course with the students in the class. (The term 'cognitive dissonance' comes from Festinger (1968) and is used to describe any intellectual activity that interferes with learning.)

Student reaction to these exercises was mixed. Some students were ambivalent about them:

> Sometimes I think that people take advantage of these reports [cognitive dissonance reports] just to get easy points in class. Although sometimes I make it an extreme effort to try to make these reports have feeling and that they also may tie into our discussions I think that I too may be unknowingly taking advantage of this situation. I like the fact that there are many different points of view on how our discussion is held, but it does not really give an original thought of how cognitive dissonance takes its place in the classroom.
>
> Although I like the fact that people are exploring the many ways humans are capable of thinking, I feel that by allowing them complete undirected freedom to think may disorient some of them. I don't know though. Perhaps it is just me.

Other students expressed a liking for these exercises although that liking is rather amorphous:

> I really like the class. Everyone seems to really know who they are. Consequently we get all sorts of opinions in the class that makes class discussion worthwhile. Also, nobody is critical of anyone for their opinions. I find that this class has a wonderful atmosphere that really enhances the learning experience. I think one of the reasons why the class is so great is because of the oral cognitive dissonance. We really get to know a person and bond with them once we see that they are struggling too.

One student assigned a realistic reason for liking the cognitive dissonance reports:

> I liked cognitive dissonance reports because it gave us a chance to get to know each other. The reports helped to form a community within the classroom. Although a few of the reports were thoughtlessly negative, even these complaints ... were better discussed in the open where Dr. Ney and the other students could respond to them.

Besides this, there is a fourth principle derived from studies in language acquisition which can help to provide a model of content learning. Students learn language only from comprehensible input (Krashen 1985, Loschky 1994, de Bot 1996). This principle is acknowledged by students who have stated that, although they have tried to take the course from instructors using the conventional lecture method, they succeeded in the course only with the instructor using a collaborative learning model.

One student wrote about how collaborative learning helps to provide comprehensible input in the following terms:

> My favorite part of the class is the student discussion leaders. It is very useful to have your fellow classmates guide you through a chapter. This subject is very difficult to understand and the book is even worse. It is reassuring to have someone explain things to you from a student's point of view.

Another student put a similar concept in the following terms:

> Being directly involved in the class has helped me grasp the concepts offered. When I was sixteen, my father had me sit next to him in an old, Ford LTD. He started the car and then proceeded to drive it around the block. It wasn't until I was trying to find reverse for myself that I began applying his directions and learning something. It appears to be true, people learn by doing. You have to know the course material to be able to present it, answer questions and grade it. Class members are dependent on me. I am not just responsible for myself. Other people rely on me to know the homework in order to evaluate their quizzes. The format has made the class sessions more interesting and rewarding than any others I have been involved in thus far.

Collaborative models of learning, then, present comprehensible input for students of content learning and in doing so provide evidence for the fact

that hypotheses on how language is learned can be used in a model of why collaborative learning works.

So it is, then, that theories and principles of language learning can be used as a model for content learning within a collaborative learning framework. In the first place, the language learning model provides an explanation for the effectiveness of the collaborative learning model: namely, there is no true learning without interaction. In the second place, the language learning model provides an explanation for the necessity of considering the importance of affect in the collaborative learning model; language learning is not effective for individuals whose attitude towards the subject is negative. In the third place, the language learning model provides an explanation for the effectiveness of the collaborative learning model even though the material to be learned might be marred by the lack of experience brought to the situation by students: human beings learn language from a less than perfect corpus of data.

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