INTROSPECTING ABOUT SECOND LANGUAGE LEARNING[1]

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Attention and Learning

It is becoming increasingly popular to view language learning as a conscious process—knowing about language or formal knowledge of a language, while language acquisition is viewed as a subconscious process resulting in implicit knowledge of the language (Krashen 1981). Krashen would contend that most of language mastery can be attributed to language acquisition rather than to learning. Krashen would fruther contend that even the formal language classroom is most valuable as a rich environment for acquisition to take place, rather than as a place to learn a language. For the purposes of the research I discuss below, I will assume that a distinction between learning and acquisition does, in fact, exist.

There are those like myself who would like to believe that in a typical language classroom a considerabie amount of learning is going on — learning that *does* become converted into acquired material. This acquired material would then be retrievable in language use situations without having to call upon a conscious language monitor. The line of investigation reported on in this paper deals with the classroom learning phase, not with the issue of whether learned language subsequently is used successfully without monitoring. The research question is really, "Is there as much language learning going on in the class as the teacher or outside observers might think?"

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Since learning is a function of memory and since memory is a function of attention, this paper is really about "attention." So, in fact, the research question of this paper could be rephrased: "Are the language learners attending in class at a level that will ensure that language learning will take place?" For maximal learning to go on, the student would be directing primary attention to the language instruction input (e.g., a teacher's explanation, gestures, and words written on the board; another student's question and teacher's answer).

In reality, there are other inputs competing with language instruction—namely, input from the learner's mind regarding other academic issues or social issues; visual and auditory input from the classroom environment but irrelevant to language learning; sensations from the learner's body, such as aches and pains, states of hunger, thirst. These inputs may all vie for the learner's attention simultaneously. A popular model for how we attend, "the capacity model," would in fact suggest that simultaneous inputs can all be processed in parallel on a "space-sharing" basis. In other words, we can do some processing of all information available to us in our sensory memory. But since we seem to be limited to a single pool of processing resources, we have to set priorities, such that some stimuli get complete analysis and others only superficial analysis (Wingfield and Byrnes 1981, ch. 6).

Research on attention has demonstrated that cognitive activities which are sufficiently well-practiced and automatic (like, in our case, certain language drills and other more automatic activities) require less attentional capacity. Thus, teachers who look to a student's response in such an activity as a sign of whether that student is paying full attention may be deceiving themselves.

In Search of a Methodology for Introspection

Over the years I have become increasingly interested in helping foreign language learners improve their language learning by using their classroom time more effectively, regardless of the method of instruction. I began observing language learning in the classroom as one means for describing the learning process. I soon became frustrated by how little I actually found out from such observations about how the learner does or does not learn. Taking the observational approach meant that my sample was limited to those students who spoke up, and even then I frequently had the uncomfortable feeling that I was merely intuiting about how they were learning and not necessarily perceiving their learning patterns accurately. Furthermore, I felt that I had learned virtually nothing about the "quiet" students in a typical class session.

It was at this point that I undertook more interventionist approaches, such as getting the teacher's permission to stop the class in order to ask a particular student a question about why he or she said something a certain way. Also when students were paired up in class for the purpose of having dialogs, I would interrupt their interactions to ask questions about their language behavior. In addition, I would question particular students at a break regarding their language in that in that class before the break.

In keeping with these same goals, I also had observers sit next to one student for a whole class period (up to four hours), observing the student's participation and note taking. Periodically, these observers would ask the students questions about what they had gotten out of specific things that the teacher or fellow students had said, how they had handled new vocabulary words, why they had written down certain things in their notebooks, and so forth.

Encouraged by their results, I started videotaping classes and having the learners view the videotape and answer questions as to what they were thinking when one or another classroom event took place. This approach seemed the most successful of all because the learners did not have to depend entirely on their memory to reconstruct the event. But a drawback was that there was an inevitable lapse between the taping of the class and the showing of the videotapes to students, since I needed time to analyze the tapes for interesting moments and to schedule subsequent viewing sessions with the students. I then came to the realization that meaningful student data would call for some instant mental replay on the part of the students. Thus, the idea for this research thrust emerged.

Current Research Efforts: Whole-Class Introspection

My intention was to have all the students inspect their mental states at selected moments during classroom sessions. Thus, rather than studying a lot of moments for one student, I chose to look at one moment across a lot of students. My main concern was with what learners are doing with input that the teacher intends for them to learn. z wanted to explore whether this input was being processed as *intake*. My experience with the videotaping had already demonstrated that things can block input from becoming intake. Learners reported listening differentially to their fellow students' interlanguage talk according to how much they liked them for whatever reason. In other words, students tuned other students out if they felt that the students talked too much or too fast or with an incomprehensible accent. These examples would be instances in which, according to Krashen's input hypothesis (Krashen 1981), the affective filter is high, not letting much input in.

Mentalistic research techniques such as this introspection one have been around for a long time but have frequently met with disfavor for not being reliable enough, among other things. The problem is that if we wish to assess,

say, the level of attention to instructional content in a class without turning to mentalistic measures, we may end up using far less reliable means, such as the look on the students' faces. Even end-of-course student evaluation forms could be criticized for not being a valid enough measure of day-by-day classroom events. They are, of course, based on recollection—and sometimes fuzzy recollection at that.

The way that the current research approach works is as follows. Second language classrooms are selected in which the teacher agrees to have the class session interrupted at one or two moments in order for the students to inspect their mental states and then write down what they find. This self-observational inspection is intended to reflect *introspection*—the immediate apperception of present mental states. But since this calls for writing down experiences as fast as they happen (i.e. within 10—20 seconds), these inspections actually are in part *retrospection*—memory of the experience after the event (see Cohen & Hosenfeld 1981, for more on this distinction).

The "moment" for stopping the class generally is selected from extended segments of input in the form of teacher talk or student interlanguage talk. A moment reflects, say, the teacher's elaborated explanation of a grammar point, use of a complex structure, or use of difficult lexical items. Or it could consist of a student's report, response, or interaction with other students.

The questionnaire used in this research effort has been refined a number of times and has come to include the following basic questions:

1. What are you thinking about right now?
2. Please identify thoughts that were "in the back of your mind" while you were listening.
3. If you were tuning out or having trouble paying attention, was it because the material was:
   too easy____
   too difficult____
   not interesting____
   too condensed____
   other____?
4. If you *were* thinking about what was being taught, please be more specific. Were you:
   repeating the material to yourself (orally or in writing)____
   paraphrasing the material in your own words____
   characterizing the material in some way (e.g., labeling it, looking for an example, etc.)____
   relating this material to some other material____?

The rationale for this last question is to see how actively students are processing the content of the lesson — from simply repeating it (a potentially weak approach to remembering the material) to relating it to other material (a potentially powerful way to remember material, i.e., through associative links).

At the beginning of the class session the learners are told that they are going to be participating in a study and that the class session will be stopped in order for the learners to fill out a questionnaire anonymously. The learners are told that the purpose is to help improve their learning. The questionnaire is intended to be in the native language of the learners and they are to respond in that language.

A basic assumption underlying this self-observational approach is that learners can, in fact, verbalize the learning process. However complex the learners' thoughts may be, it is still considered beneficial to self-observe them introspectively or retrospectively. Another approach to self-observation not tried out in these studies would be that of thinking aloud — i.e., simply letting thoughts flow without inspecting or analyzing them (Cohen and Hosenfeld 1981).

To date the self-observational approach has been tried out by myself and by my graduate students from the Hebrew University of Jerusalem in seven second-language classrooms in Israel — three at the college level (two intermediate Hebrew classes of mostly English speakers, one English class for Arabic speakers), two at the adult school level (one English class for Arabic speakers, one Hebrew class for English-speaking senior citizens), and two at the high school level (one Hebrew class for Farsi and French speakers, one English class for Hebrew speakers)[2]

Results

This small sampling of classrooms has already given us some indications as to patterns of attending and the likelihood that learning will take place. First, we have found that only about 50% of the students are attending to the content of the lesson at the moment we stop the class. We found that our senior citizen group had a lower attention rate — 25%. We also saw that attention may be much higher — up to 82%.

When students were attending to the instructional content, they may have been making a general observation ("my English grammar is lacking regarding this grammatical point" — L1 grammar), assessing their general grasp of what was being said ("I know the grammar points being taught here but not how to use them"), or grappling with a specific problem ("I am looking for an unknown word in Hebrew that the teacher just used").

When students were tuning out, they may have been evaluating the teacher ("I was thinking about how good the teacher is"), evaluating another

[2] The technique has also been tried out in first-language classrooms and in content subject classrooms, and we have found results similar to those for second-language classrooms.

student ("Why don't people listen the first time?"); or thinking about other academic issues ("I was thinking about taking exams in Hebrew"), social issues ("my weekend," "a rugby match," "a friend"), or bodily needs ("thinking about breakfast," "thinking about a break to go to the bathroom").

When asked about thoughts in the back of their mind, less than a quarter of the students, on the average, reported that they were thinking about the instructional content (e.g., "the difference in meaning between masculine and feminine forms of a word"). Thoughts were spread among the other categories — other academic issues (e.g., "sociology lessons I didn't finish"), social issues ("about personal plans for the next few years," "getting money out of the bank," "a girl in my next class"), or bodily needs ("I want to get something to eat").

If students were tuning out, it appeared that all the reasons provided in the questionnaire were equally relevant — i.e., the material was considered either too easy, too difficult, not interesting, too condensed (too much), or other (such as "affective reasons" — e.g., a negative reaction to the teacher).

The questions about the way in which the students *were* attending to the instructional content were only posed in the last several studies, as the questionnaire continued to be revised. The findings suggested that students were mostly just repeating the material to themselves in their minds. Fewer reported that they were characterizing the material in some way (e.g., labeling it or looking for an example). Fewer still reported relating it to other content, and still fewer said that they attempted to paraphrase it. Actually, these reporting a paraphrase were mostly paraphrasing by way of translating — saying the utterances over to themselves in their native language.

What became apparent as students started reporting their thoughts was that they were sometimes attending to more than two thoughts at the same time. This finding is consistent with the capacity model of attention mentioned above. The capacity model provides that simultaneous inputs can be processed in parallel on a "space-sharing" basis, but with each input receiving a differential degree of analysis. In other words, the mind must allocate attention in some order of priority.

Discussion

The most striking finding for me was that students apparently intake less classroom input than I would have thought. These results would help to explain why what teachers teach is not necessarily "learned." Students do not seem to attend to the instructional content that much. Thus, in response to my initial question, there apears to be less language *learning* going on in class than one might think. And a reason for this is that language students are not attending in class at a level that will insure that language learning *will*

take place — at least, they are not attending to the instructional content at a high level of attention.

A deceptive factor here is that students may attend at just a high enough level so that they can respond when their name is called or give an answer to a fairly automatic question-answer pattern. At this level of attention, they could also perform rather automatic activities when they do not require much thought (such as the oral reading of a passage). The teacher may think that the students are more engaged in the learning task than they are.

There are at least two things that we can do about the situation. One is simply to rely on acquisition to do the job. In other words, we can assume that students will eventually intake enough target language input from the environment — much as a child learns a native language — so that gains will be made without the need to intake the teacher's instructional input. There appears to be good justification for relying heavily on acquisition to take place. It is probably the case that a good portion of target language mastery attributed to learning has actually been the result of acquisition.

The other thing that we can do is to train teachers to improve the level of attention to instructional content on the part of their students. First, teachers can take note that students are unquestionably more attentive if the content appears more interesting and relevant to their needs, if it is at a challenging but not overly difficult level, and if there is not too much at once. These are the obvious issues reported on in our questionnaire.

Then teachers can also note the day of the week and the time elapsed in the class period as factors to keep in mind in planning out the ordering of activities in a class session. If the teacher is not sure when to schedule a break or whether a certain activity is stimulating attention, then a questionnaire like the one in this study could be administered as a source of such information. I have used such a questionnaire in my own applied linguistics courses to see how many of the students are attending to my instructional content. The results may be more valuable by far than some end-of-course evaluation sheet in that the results can be applied immediately to improving the situation.

Teachers who feel that they lack the enthusiasm and drive that provoke attention may wish to think about changing their approach to one which is more provocative (see Fanselow 1981, about breaking with convention). Teachers may also have to cope with students who do well in class without listening — either because they are better acquirers than others, because the class level is actually too easy for them, or because they are excellent learners of language. Also, as pointed up in this study, elderly students may be prone to have lower levels of attention and may need more stimulating activities to keep their attention.

Students of all kinds may benefit from some explicit training in how to use their minds more actively in the second-language classroom. In other words,

the teacher could demonstrate what it means to receptively process a particular grammar explanation as opposed to actively relating it to some other grammar points or to some knowledge that has already been learned or acquired. Students themselves could also be more aware of how their attention wanders — i.e., when they start tuning out. It may well be that tuning out begins to happen the more passively the students handle the input.

It would seem that as long as we continue to teach for learning, we as teachers, teacher trainers, or students can do more to ensure that language learning actually takes place. And it would seem that a focus on how we attend and how to improve attention are beneficial.

REFERENCES

Cohen, Andrew D. and Carol Hosenfeld. 1981. "Some uses of think-aloud and self-observational data in second-language research". *Language learning 31* (2): 285—313.

Fanselow, John F. 1981. "Upside down and inside out". New York: Teachers College, Columbia University.

Krashen, Stephen D. 1981 *Second language acquisition and second language learning*. Oxford: Pergamon.

Wingfield, Arthur and Dennis L. Byrnes. 1981. *The psychology of human memory*. New York: Academic Press.