

EVALUATING METHODS BY ANALYSIS OF STUDENT ATTENTION

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In the Department of Foreign Languages of the University of South Carolina, at Columbia, there was recently devised a system for using the observed "state-of-attention" of students to help evaluate teaching methods and activities in an experimental class in beginning Spanish. In order to provide useful data, the system had to meet two requirements that could not be satisfied by ordinary methods of live-observation, namely that:

- 1) all members of the class would be observed at precisely the same moments, and
- 2) degrees of student attentiveness would be measured as objectively and accurately as possible.

The first requirement was satisfied by the use of the videotape recorder, and the second by defining five distinct categories or degrees of state of attention. (See Chart 1.)

Procedure:

The VTR and camera were set up prior to the arrival of the class. The camera was focused on the students and was not moved during the entire class period. Since these were relatively small groups, it was possible to record all the students at once by placing the camera high in a front corner of the room and using a wide-angle lens. The students were not told the purpose of the VTR, but because the equipment had been used extensively in the classes before, they seemed to ignore it.

A student assistant operated the equipment. Using a watch with a second hand, he started the VTR at exactly the zero second point of every third minute and ran it to the twenty-second point. The average number of "takes" per class period was eleven, for an average running time of three minutes and forty seconds. At the end of each session, a short five-point quiz was given on the material covered during the taping.

After the class session, the teacher began the actual observation. Using a chart (See Figure 1) on which the students' names and the observation periods had been blocked off, the teacher viewed the tape once for each student present, watching only one student at each playback, and entered state-of-attention ratings for each observation. Class-average ratings were obtained for each observation period and entered on a graph. (See Figure 3.) The teacher also noted at this time the type of activity occurring during each observation period. This was usually indicated by the audio since the teacher was not always visible on the screen.

The following day the VTR and monitor were taken back to the class. The students were given Individual Student Observation Charts, which were simple one-line forms of the Teacher Charts. The teacher told the class what had happened the day before, and then carefully explained the five degrees of attention. The VTR was started, and each student gave himself a grade for each observation period. (See Figure 2.) The grades were averaged and the score on the five-point quiz was entered. About fifteen minutes of class time was required for the whole procedure.

After the class, the teacher entered the results from the student evaluation on the graph, as shown in Figure 3.

Results:

In the sample reported here, the highest degree of attention occurred at the first observation period, during the "warm-up" drill. This is a very rapid oral drill of previously learned material and is intended to help the student "tune in" to the foreign language.

The lowest attention levels were recorded immediately after the highest, that is, at the second and third observation periods while personalized questions and review drills were being conducted. The personalized questions involve only one student at a time; while he is active, the others may be idle and pay little attention. The material contained in the review drill had been well-learned previously and seemed to offer little challenge or stimulation.

Observation periods seven and eight both covered oral drills and showed a drop in attention from a level of 4.4 to 3.6. A review of the tape indicated that once the students mastered the point being drilled, they lost interest and participation declined. These drills should have been cut in half.

The next highest attention levels were recorded during presentation of new material and review for the quiz.

A comparison of the Teacher Observations with the Student Observations shows that the students tended to rate themselves higher than did the teacher. In many cases this simply meant that the student knew whether he was paying attention or not, whereas the teacher could only judge appearances. There is a close correspondence, however, between the curves derived from the two observations. The scores on the five point quiz follow the same pattern as the state-of-attention levels.

Conclusions:

The Attention Analysis System served its purpose as an aid in making a comparative evaluation of learning activities and methods in a foreign language class at the University of South Carolina. It had the added benefit of revealing to the student a teacher's-eye view of themselves.

Evaluating Methods

The greatest potential for wide-spread application of this type of system is probably in the area of teacher intern training and supervision. It could easily be adapted for use with other procedures in interaction analysis as well.

In addition to serving the purpose, the entire project is a good example of how cooperation between the classroom teacher and the language laboratory personnel can lead to better methods of evaluation and thus, to better teaching.

CHART 1 **Degrees of State-of-Attention**

5. Student gives his undivided attention to what is happening in the class. He is alert, actively participating. His participation is indicated by his responding when called on, volunteering to respond, nodding, smiling, or puzzled looks when some aspect is not clear.
4. Student gives class activity his attention to the point that he faces the focus of activity (teacher, another student), responds when called on but for very brief periods his attention becomes distracted. He notices small things such as a pencil dropping or noise outside the room.
3. Student alternates between paying attention to what is going on in the class and to outside distractions. He looks out the window or door, hunts for papers, whispers to a neighbor, and if called on may not know what is happening at the moment.
2. Student gives much more attention to things other than the classroom activity. If he pays attention to the teacher or class situation at all, it is for brief moments. He does not disturb others but his interest is on other things as evidenced by a withdrawn look, doodling, wiggling, looking out the window for long periods at a time. He does not follow the action of the class and has no idea of what is expected of him.
1. Student is completely oblivious to the classroom activity. He pays no attention to what is happening. He dozes, yawns, stretches, often tries to distract a neighbor by talking, taking things from his neighbor, or bothering him physically. He studies another subject, writes letters, does his homework, or even reads a newspaper. If called on, not only will he not respond, he will not even realize that he has been called on.

FIGURE 1

Teacher Observation

Student	Number of Observation Period											Average
	1	2	3	4	5	6	7	8	9	10	11	
John	4.0	3.0	3.0	2.0	3.0	4.0	2.0	2.0	1.0	4.0	3.0	2.8
Betsy	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	5.0	4.9
Becky	5.0	3.0	4.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	5.0	4.6
Isabel	5.0	2.0	3.0	5.0	5.0	3.0	3.0	3.0	5.0	4.0	3.0	3.7
Lee	4.0	2.0	1.0	3.0	5.0	5.0	5.0	4.0	5.0	4.0	4.0	3.8
Gary	5.0	2.0	1.0	5.0	2.0	2.0	5.0	3.0	4.0	3.0	5.0	3.4
Phil	5.0	5.0	5.0	5.0	2.0	3.0	5.0	5.0	2.0	3.0	5.0	4.1
Ed	4.0	4.0	5.0	4.0	5.0	5.0	5.0	4.0	5.0	5.0	5.0	4.6
Sam	5.0	4.0	3.0	4.0	5.0	5.0	5.0	4.0	5.0	4.0	5.0	4.5
Average	4.7	3.3	3.3	4.2	4.1	4.1	4.4	3.6	4.1	4.1	4.4	

FIGURE 2

Student Observation

Name	Number of Observation Period											Avg.	Quiz
	1	2	3	4	5	6	7	8	9	10	11		
John	5.0	4.0	4.0	4.0	4.0	4.0	3.0	2.0	2.0	5.4	4.0	3.7	3
Betsy	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5
Becky *													
Isabel	5.0	3.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.7	4
Lee	5.0	3.0	1.0	4.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.2	3
Gary	5.0	3.0	1.0	5.0	3.0	3.0	5.0	4.0	4.0	4.0	5.0	3.8	3
Phil	5.0	5.0	5.0	5.0	4.0	4.0	5.0	5.0	3.0	3.0	5.0	4.5	4
Ed	5.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.9	5
Sam	5.0	4.0	4.0	4.0	4.0	5.0	5.0	4.0	5.0	5.0	5.0	4.6	5
Average	5.0	3.9	3.6	4.6	4.5	4.5	4.8	4.4	4.3	4.5	4.8		4.0

*Absent second day

FIGURE 3

—— Teacher Observation
----- Student Observation

