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ABSTRACT

THIS ARTICLE DESCRIBES A TYPICAL AUDIO-ACTIVE-RECORD STUDENT CONTROL PANEL AND OPERATIONAL REQUIREMENTS, WHICH, DUE TO INEFFICIENTLY DESIGNED CONTROLS, MAY HAVE A NEGATIVE INFLUENCE ON STUDENT ATTITUDES AND PERFORMANCE. A MODEL PANEL, DEVELOPED AT THE UNIVERSITY OF HAWAII, INCORPORATING STUDENT NEEDS ILLUSTRATES IMPROVEMENTS IN TECHNICAL DESIGN. (RL)

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A RATIONALE FOR IMPROVING STUDENT RECORDER CONTROLS IN LANGUAGE LABORATORIES OF THE LEVEL III TYPE

by Jean R. Theuma

A recent survey of the recording facilities intended for student use in language laboratories of the audio-active-record type reveals a lack of agreement among manufacturers as to the purpose of such equipment. On the other hand, educators themselves may have failed to stipulate and advertise the kind of learning experiences which they expected these labs to provide. As a result, the hardware controls put at the student's disposal come in all sorts of shapes, sizes, and configurations, none especially designed to facilitate the learning process during laboratory practice.

If the advantages of equipping a booth with a tape recorder[1] are primarily to give the student full control over his learning materials and an opportunity to record his performance, the criterion in evaluating a lab so equipped should be the ease with which such operations can be performed.

Let us break down into its components—pedagogical and mechanical—a likely unit of lab work:

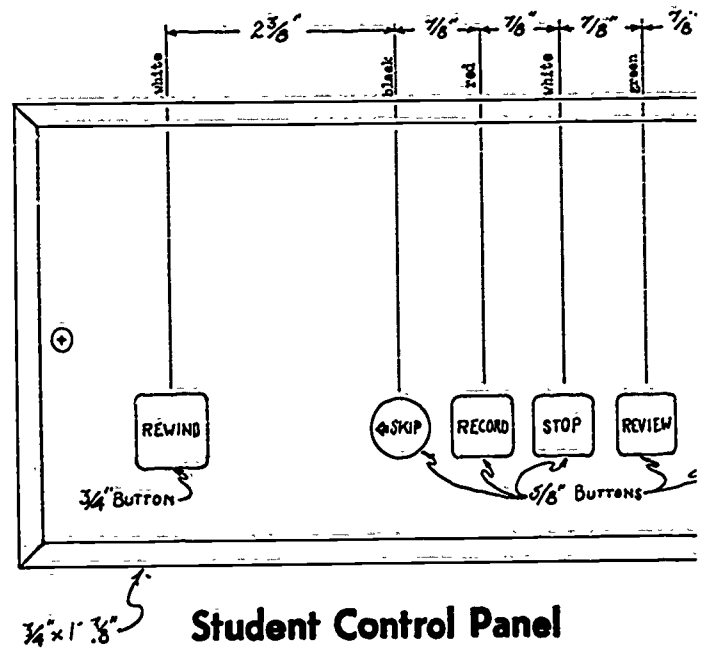
THE STUDENT	THE RECORDER
Learner's *1st* attempt: records his performance	PLAY/RECORD
immediately compares his performance with model	STOP REWIND STOP PLAY
Learner's *2nd* attempt: re-records himself	STOP REWIND STOP PLAY/RECORD
immediately evaluates his progress	STOP REWIND STOP PLAY

[1]For the purpose of this article, whether the student recorders are installed in booths or on remote racks is irrelevant.

It should be noted that: 1) the learning cycle described above relates to the practice of a single response, 2) up to 15 changes in recorder functions may be needed, and 3) it is not uncommon for 50 such work units to make up an average lab assignment. This means, in terms of hardware manipulation, that a student might have to push, hold, or turn some sort of a switch 750 times during the course of his lab session!

Have student recorder controls ever been designed with this requisites in mind? I have yet to visit a lab installation where the student does not have to waste a considerable amount of attention and energy to operate his recorder. In most cases, one has first to *look* in order to locate the controls, then *think* because of their haphazard or illogical arrangement. Quite often, both hands are needed to go into the record mode. After a few attempts, the student decides that to play back a difficult passage or listen to his immediate recording is simply too much bother.

The functional aspect of any item of lab equipment would certainly improve if manufacturers were wont to send their staff around asking questions such as, "What is it exactly you wish your students to accomplish in the lab?" It would help also if, occasionally, design engineers were actually to enter a lab, borrow a tape, sit in a booth and put themselves in the student's shoes. At the Language Laboratories of the University of Hawaii, however, we decided to go ahead and design our own controls. In fact, it only took an able technician of ours a couple of months to build a working model of the panel shown below.



Student Control Panel

The shape, size, color and arrangement of the 6 push-buttons making up this Control Panel have been carefully tested for maximum simplicity and ease of operation. The REWIND button, for instance, is out of the way because it's likely to be used only once—at the end of the session. SKIP buttons are intentionally different so as to be recognized by feel. But the most crucial feature, by far, is the juxtaposition of the SKIPBACK and RECORD buttons which makes child's play of the mechanical aspects of going over small units of taped materials again and again until mastery is achieved. Indeed, by studying the functional roles of these two controls in the chart below, it will be seen that a student could be blindfolded and still operate his recorder through an entire lab session by using the tips of only two fingers.

REVIEW	when touched once	deck goes into PLAY function	both tracks are in playback function
RECORD	when touched once	1. deck goes into PLAY function & 2. RECORD mode simultaneously	master track is in playback function student track is in erase/record function
STOP	when touched once	1. deck STOPS 2. Drops out of RECORD mode	
REWIND	when touched once	1. deck STOPS (if in motion) 2. drops out of RECORD mode 3. REWINDS all the way 4. goes back to STOP position	
SKIP BACK	while held depressed	1. deck STOPS 2. drops out of RECORD mode 3. REWINDS as long as switch is held down	
	then released	4. STOPS rewinding 5. drops back instantly into PLAY	both tracks are in playback function
SKIP FORWARD	while held depressed	1. deck drops out of RECORD mode 2. goes FAST FORWARD as long as switch is held down	
	then released	3. drops back instantly into PLAY	both tracks are in playback function

Student Controls Functions

A word of caution regarding the SKIPBACK control: its rewind speed should not be more than twice its forward speed if precise positioning is to be feasible while repeating short segments of tape and if earphone blasting is to be avoided.

Another concern of ours has been the location of the Control Panel in relation to the student's sitting posture. The right place for a panel should be wherever the student's arm, hand and fingers can assume a normal and relaxed position while manipulating the controls, so as to induce an automatic use of them.

Of course, more research is needed in both the pedagogical and the mechanical aspects of language lab instruction. Unfortunately, experts in these two fields usually work and live in different worlds. If our attempt to bridge the gap is to be worth anything, it should be to encourage both lab makers and lab users to develop a genuine interest in each other.