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# Laboratories for Foreign Language Teaching

*Coming into general use are  
language laboratories.*

OUR experience with language laboratories has been at two levels: a college laboratory in operation since 1952, and a training school laboratory installed some nine months ago. Reflecting current trends, the high school laboratory is larger and much more expensive, and it provides for a somewhat greater number of students. The languages taught are French and Spanish.

Our approach to modern language teaching rests on several assumptions: (a) Vital national interests demand the training of increasing numbers of Americans to be proficient in one or more modern languages. (b) Proficiency in modern languages will generally be used to increase professional or technical efficiency in nearly every field conceivable. At the same time the demand for trained modern language teachers is rising sharply. (c) Under these conditions, proficiency means first of all the ability to *understand*

a foreign language when spoken by natives, and to *speak* the foreign language so as to be readily understood by natives. The skills of reading and writing follow and depend upon the skills of listening and speaking. (d) The acquisition of the listening and speaking skills is based upon neuromuscular memorization (analogous to learning to play a musical instrument), and must involve prolonged and regular periods of drill.<sup>1</sup>

These principles were successfully applied in ASTP language programs as early as 1943, but such programs were too costly and too cumbersome for non-military institutions. The modern language laboratory has been devised to provide something like the ASTP learning experience in a more practical form. The laboratory does provide the voices of native speakers as models for learners, and it makes possible effective simultaneous practice in large groups.

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<sup>1</sup>A more detailed statement of these principles will be found in: Johnston, Remer and Sievers. *Modern Foreign Languages*. U. S. Office of Education Bulletin 1960, No. 20. Washington, D. C.: Superintendent of Documents, U. S. Government Printing Office. 30 cents.

Let it be said at once that this implies full-time use of the modern language laboratory. Every language class must devote some time to laboratory drill every day. The modern language teacher cannot afford to share the laboratory with teachers of other subjects, any more than a music teacher can afford to share her instruments, or a typing teacher his typewriters.

Although we at Peabody have made no attempt to use the laboratory in teaching foreign languages in the elementary school, we do not believe that laboratory instruction is suitable for the preadolescent child.

### Laboratory Equipment

For teachers who wish to develop listening and speaking proficiency in their students, a record player and a tape recorder are the minimum essentials. Using suitable recorded materials, these machines make possible much practice in listening and repeating, in concert and individually.

The fully equipped laboratory adds to the experience of listening and repeating, the means of self-criticism by recording and playing back. Each student works in a semi-private booth, equipped with headphones, microphone, and a tape recorder. He listens to prerecorded material, spoken at normal speed by native voices, repeats what he hears in pauses left for the purpose, and then is ready to play back the recording of his own repetition in alternation with the native model. Unlike any other type of language learning activity, this permits every student to recite simultaneously and receive correction in the laboratory period.

The Peabody College laboratory is of the library type. Students in first and second year classes are required to sched-

ule two laboratory periods per week, in addition to four periods of class attendance. In the laboratory each student checks out a tape, goes to a booth, and works independently of others, listening, repeating, recording, and playing back such material as he thinks most needed, throughout the period. The laboratory attendant checks the roll, issues tapes, and gives assistance in operating equipment if needed. Another assistant works week-ends, duplicating tapes as needed. The services of an electronics repairman are available.

This type of laboratory, providing maximum opportunity for independent preparation, seems satisfactory at the college level. We are convinced that it would not work well with high school students.

An alternative form of laboratory is the console or broadcast type, in which the instructor controls the rhythm of listening, repeating, recording, and playing back through a central console; and at the same time monitors the work of individual students in turn, using a two-way communication system to give corrections as needed in absolute privacy.

The fully equipped console laboratory provides a tape recorder for each student. The tape recorder may be in the student's booth, operated by the student; or miniaturized tape recorders may be stored in a remote control cabinet, and operated through the central console. This latter plan obviates tape spillage, unintentional tape erasure, emergency splicing, and various types of mechanical mishap incidental to student operation of tape recorders. The tape recorders in the remote control cabinet are loaded with endless-loop cartridges, which run forward only and provide for playback at the end of a cycle—usually three or five minutes.



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*Each student works in a semi-private booth.*

The system just described (the Linguatrainner) was originally developed for the Massachusetts Institute of Technology. It is the one installed at the Peabody Demonstration School. We find it well adapted for use during class periods. Each class spends a part of each period working in the laboratory, and the rest in conventional classroom activities.

Indispensable accessories to this (or any) language laboratory are a tape recorder, a record player, and a library of tape and disc recordings. These are used to transfer prerecorded material to the cartridges used in the Linguatrainner system; or to the library tapes used by the students in the college laboratory.

Indispensable, too, are the services of an electronics repairman who has become familiar with the laboratory and

is readily available. Emergencies will arise. It is important to have spare parts always on hand. A wiring diagram should be on file, particularly if a substitute repairman has to be called in.

### Materials and Methods

As previously implied, proficiency is achieved by listening to recordings of native speech and imitating, repeating, correcting and repeating until new speech habits are firmly established. Materials to be memorized consist of dialogues and pattern drills. Dialogues, which are the core of each lesson, present real-life situations of wide interest and are arranged in a suitable sequence for learning structural forms of the language. Pattern drills are suggested by passages in the dialogues, but give additional drill

on new structural patterns as these are added.

Teachers who meet four or five classes per day will not have time to create new textbooks of this type. Fortunately, a number of college texts in French, German, Spanish, and Russian (inspired by the ASTP Spoken Language manuals) have come on the market since 1950, and are now available completely tape-recorded. A few high school texts have recently been modified for laboratory use, and complete tape recordings of these texts are available. We have one completely new textbook, written to meet the needs of present-day teaching organized around the language laboratory. This is *Modern Spanish* (published by Harcourt, Brace and Company, 1960), written by a committee of authors as a project of the Modern Language Association. It is tape-recorded. So far as we know, no comparable completely new text has been produced at the high school level for any modern language. Such textbooks are badly needed.

Theoretically, any teacher who speaks the language natively can prepare his own recordings; but this is an enormous task. It also limits the students to hearing one voice, rather than the variety of men's and women's voices now available in all the commercially taped texts referred to previously.

It should be clear at this point that teaching techniques figure largely in the selection of a textbook, and in the day-to-day preparation (or re-taping) of taped material for laboratory use. Once the student is in the laboratory, the nature and organization of the material will largely determine and control activities.

Note, however, that the laboratory makes it possible for retarded students to work at earlier lessons, or specially as-

signed material, without hindering the progress of the group. Exceptionally able students may likewise work with special materials.

Additional laboratory periods may be scheduled for those who need or wish them. In a high school situation, students may spend study or library periods in the laboratory when this is thought advisable. Through the console, such pupils may be assigned individual tapes with which they will work in a library situation. This assumes that the laboratory has a few booths available each period, over and above the number in the largest class.

At the second-year and more advanced levels, relatively few taped textbooks are as yet available for laboratory use. There is, however, a wealth of literary material recorded on disc and tape. The ingenuity of the teacher will find full play in adapting such material for laboratory use: inserting pauses for repetition, adding drills to fix new details of structure, providing questions based on the text, spacing passages to be used for self-dictation, and so forth.

Similar use may be made of foreign language programs taken off the air, particularly newscasts.

### Testing

As the laboratory is used to develop the skills of listening and speaking, it is these skills which can be tested there to advantage. Actually, group tests of listening comprehension, such as those published by the Educational Testing Service, need not be given in the laboratory. Students in a conventional classroom may listen to a tape recording and mark multiple-choice responses on an answer sheet. However, acoustical conditions are unequal unless the test is given



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*Students recite simultaneously and receive correction in the laboratory period.*

in the laboratory, where every student hears the recorded material with equal volume and fidelity. Shorter listening comprehension tests of this type may be prepared by the teacher and given in the laboratory.

The most difficult skill to measure is that of speaking. Heretofore this was tested through interviews, which were time consuming, and difficult to score objectively. Laboratory tests of speaking reduce the testing time 50 percent, since an entire group may record responses simultaneously. The simplest type of test is one in which the student is asked to repeat sentences (arranged in ascending order of difficulty) as he hears them. Scoring is done on predetermined points of pronunciation and intonation, as well as memory span. Next come tests in which the student is asked to modify

sentences in accordance with a model which is given. These are simply pattern drills with the correct response omitted. Such tests may range from very simple to very difficult. Finally, students may be directed to ask or to answer questions.

It goes without saying that no exercise should be given as a test until students have practiced thoroughly the equivalent drill. Moreover, frequent practice tests on familiar material will reduce the tension created by this unfamiliar kind of examination.

It will be noted that tests consisting of responses recorded by students in the laboratory, must be heard and scored in the laboratory. In the console laboratory, the instructor can monitor all student tapes through the console, one after the other, when the group examined has vacated the laboratory; but this is a lengthy

process, and the work must be completed before another group uses the laboratory, unless it is possible to withdraw the cartridges or tapes carrying test material, shelve them, and insert fresh tapes for the next group of testees.

A much cruder technique is to test students in the laboratory one at a time, but briefly. In this instance each student in turn hears the same test recording and each in turn records his responses on a single large reel of tape. This tape, carrying the test recordings of an entire class, may then be played and scored anywhere at the convenience of the instructor. However, this plan creates more nervousness on the part of testees, since the familiar laboratory situation is somewhat modified.<sup>2</sup>

One item of equipment which may be on the market, though we have not seen it, is a portable record-playback unit for tape cartridges. This would be very helpful in the preparation of materials. It would likewise be useful for scoring student recordings away from the laboratory.

Speaking in general, we hope and are inclined to believe that equipment will soon be devised to make the testing process less cumbersome than that we have described here.

Giving freer rein to the imagination, may we suggest the invention of an automatic critic, a device which will scan student recordings while they are being made, and reject speech which is too far below the norm of a given level. In the classroom this is done by the teacher,

<sup>2</sup> For more detail on pattern drills and audio-lingual testing, see Edward M. Stack, *The Language Laboratory and Modern Language Teaching* (Oxford University Press, 1960), and Pierre Delattre, "Testing Students' Progress in the Language," in *Language Teaching Today* (Indiana University Research Center, October 1960).

though necessarily at random. In the small sections of the ASTP it was done much better by the native informant. In the laboratory, the alert student practices self-criticism as he compares his recorded repetition with the master tape, phrase by phrase. Not all students are alert, however, and the beginner sometimes fails to detect significant differences. This is a real challenge, which we believe the inventor will ultimately meet.

Returning to the level of what is possible now, we must stress again the need for a much greater variety of taped teaching material, especially at levels beyond the first year.

Something very helpful to teachers who are "playing by ear" in the laboratory would be a sound film, showing in a good deal of detail the operation of one or several long-established laboratories, at the high school and the college level.

The film just mentioned suggests the importance of in-service training. For a long time to come, teachers who have had some experience but have been feeling their way in the use of the laboratory will welcome the opportunity to see techniques demonstrated, and to compare notes with other laboratory teachers.

Today, a steadily increasing group of teachers with no previous experience is being asked to use the language laboratory. For them, in-service courses will provide an opportunity to practice the mechanics of laboratory operation away from the tensions of the classroom. At the same time (and this is most important), language teachers of many years' experience in conventional teaching may obtain needed help in adjusting to the new objectives which the laboratory was created to attain, and in using the materials now becoming available for laboratory teaching.

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