DOCUMENT RESUME

ED 047 542 FL 000 160

AUTHOR	Morton, F. Rand, Ed.
TITLE	The College Language Laboratory: Selected Work Papers Presented at the Conference on the College Language Laboratory, November 1960.
INSTITUTION	Michigan Univ., Ann Arbor. Coll. of Literature, Science, and the Arts.
SPONS AGENCY	Modern Language Association of America, New York, N.Y. Foreign Language Program Research Center.; Office of Education (DHEW), Washington, D.C.
PUB DATE	61
NOTE	122p.; Publications of the Language Laboratory Series Preprints and Reprints, Volume 5
EDRS PRICE	EDRS Price MF-$0.65 HC-$6.58
DESCRIPTORS	Audio Active Compare Laboratories, Audiolingual Methods, College Planning, *Conference Reports, Educational Technology, *Language Instruction, *Language Laboratories, Language Laboratory Equipment, *Language Laboratory Use, Language Programs, *Modern Languages, Second Language Learning, Student Evaluation

ABSTRACT

Selected papers of a conference dealing with development and use of language laboratories in the early 1960's are presented in this publication. Selections include: (1) F. R. Morton's "Recent Developments in Language Laboratory Equipment for Teaching and Research", (2) Pierre Delattre's "Testing the Oral Production of Language Students", (3) Capretz's "The Preparation of Materials for the Language Laboratory", (4) Gustave Mathieu's "Recommendations on the Learnings Which Should Occur in the Language Laboratory and in the Classroom", (5) A. S. Hayes's "Step by Step Procedures for Language Laboratory Planning", and (6) "Planning and Operating a Language Lab or an Electronic Classroom in a High School: A Dozen Do's and Don'ts". Introductory remarks by Elton Hocking are included. (RL)

PUBLICATIONS OF THE LANGUAGE LABORATORY
Series Preprints and Reprints: Volume V

The College Language Laboratory

Selected Work Papers presented at the
Conference on the College Language Laboratory,
November 1960, New York City,
Under the Sponsorship of the FOREIGN LANGUAGE PROGRAM RESEARCH CENTER
OF THE MODERN LANGUAGE ASSOCIATION OF AMERICA,
in partial fulfillment of a contract with the United States Office of Education,
Department of Health, Education, and Welfare.

COLLEGE OF LITERATURE, SCIENCE, AND THE ARTS
THE UNIVERSITY OF MICHIGAN

PUBLICATIONS OF THE LANGUAGE LABORATORY
THE UNIVERSITY OF MICHIGAN

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PUBLISHED BY THE COMMITTEE ON THE LANGUAGE LABORATORY
COLLEGE OF LITERATURE, SCIENCE, AND THE ARTS
THE UNIVERSITY OF MICHIGAN
ANN ARBOR, MICHIGAN

F. Rand Morton, *General Editor*

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NOVEMBER 27, 28, 1960
HOTEL GROSVENOR, NEW YORK CITY

CONFERENCE PARTICIPANTS

Donald D. Walsh, Chairman
Director, Foreign Language Program Research Center
The Modern Language Association of America

Elton Hocking, Presiding
Head, Department of Modern Languages
Purdue University

Mrs. Dora Bashour
Director, Language Laboratory
Hunter College
New York 21, New York

Mr. Pierre J. Capretz
Department of French
Yale University
New Haven, Connecticut

Professor Pierre Delattre
University of Colorado
Boulder, Colorado

Mr. Guillermo del Olmo
Department of Spanish
Yale University
New Haven, Connecticut

Professor Frederick D. Eddy
Mod. Lang. Materials Development Center
2 West 20th Street
New York 11, New York

Professor Cleland C. Harris
Louisiana State University
Baton Rouge, Louisiana

Professor Alfred S. Hayes
Foreign Language Consultant
U. S. Office of Education
Washington, D. C.

Professor William N. Locke
Department of Modern Languages
Massachusetts Institute of Technology
Cambridge 39, Massachusetts

Professor A. T. MacAllister
Department of Romance Languages
Princeton University
Princeton, New Jersey

Professor Gustave Mathieu
Orange County State College
Fullerton, California

Professor F. Rand Morton
The University of Michigan
Ann Arbor, Michigan

Dr. Earle S. Randall
Modern Language Project
172 Newbury Street
Boston 16, Massachusetts

Mr. A. K. Shields
Holt, Rinehard and Winston, Inc.
383 Madison Avenue
New York 17, New York

Professor William J. Smither
Tulane University
New Orleans 18, Louisiana

Professor Edward M. Stack
Villanova University
Villanova, Pennsylvania

MLA Staff

John T. Harmon
Jean Martin

Meetings of the Conference, realized in five general sessions during the day and evening of November 27 and the day of November 28, 1960 were held in conference rooms of the Grosvenor Hotel, New York City, New York.

(i) (ii) (iii)

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(papers in order of conference presentation)

INTRODUCTION

The language laboratory is probably the most spectacular evidence of the current revolution in the teaching of modern foreign languages. It was scarcely fifteen years ago that the first complete laboratory was developed at Louisiana State University, using relatively crude instruments for audio-lingual practice by beginning students. Other installations followed rather slowly during the next several years, for the costs were high and the educational advantages were generally unknown. This pioneering was done only in the colleges because of the expense and also because the colleges were the first to feel the influence of the Foreign Language Program of the Modern Language Association, which began in 1952. The influence did not concern "machines" specifically; it was rather a general leaven in the thinking of the profession.

From that date onward, the Foreign Language Program has led the way for our profession at all levels and through various agencies, public and private. An unprecedented amount of money has been found for special projects in research, development, and evaluation. Equally impressive is the number and caliber of our colleagues who have "heard the call" and devoted months or even years to such projects, often at the expense of their scholarly interests. The Program has conducted scores of special conferences, some of them under contract with NDEA, and such was the conference of November 27-28, 1960, on the Language Laboratory in the College.

The papers which were discussed at this conference are presented here in a revised version representing the consensus of those present. They are now published in order that other experts in the field may in turn read them and submit their criticisms, so that a final revision may ultimately be made, representing the consensus of all interested members of the profession. Readers are therefore invited to send their suggestions and criticisms to Donald D. Walsh, Director, Foreign Language Program Research Center, 70 Fifth Avenue, New York 11. Their contributions will be acknowledged in the final publication.

Since it was my privilege to serve as chiarman of the conference, perhaps I should offer a few guide-lines for the prospective discussion of the present publication. The very concept of the language laboratory is so elastic, and the definitions of its nature and purpose are so varied, that unguided comments or theories might well miss the mark and fly off into outer space. During the conference it was repeatedly necessary for me to pull the discussion back to the subject at hand. And so, what are the subjects of these papers?

Fortunately, none of us tried to define the language laboratory, which seems indeed to be all things to all men, and to cost anywhere from $200. to $50,000. However, it was generally assumed that the equipment must provide sufficient facilities for audio-lingual practice by a reasonably large group, whether a discreet class (the usual situation in a high school laboratory), or a library-type attendance (the more common situation in the colleges). There was no discussion of the relative merits of these two operations, or of the value of audio-active versus record-and-playback techniques, and related questions, since the problems are being investigated under experimental conditions.

A regrettable omission, caused by the unavoidable absence of one member of the group, was the subject of "visuals" in the learning process. A whole spectrum of mental imagery is involved here, both per

se and in its relations to the audio-lingual imagery. It seems obvious that the visible context is normally a part of the " situation" on which elementary dialogues and drills are based. This whole subject has been generally neglected so far, primarily because the new audio-lingual materials are unrelated to the pre-existing films, slides, etc., and because the production of new, integrated visuals has lagged. However, many such materials are now in production and will presently be available for the various languages. Among them are elaborate and costly series involving separate books for students and teachers, discs for home use, tapes, filmstrips and finally films for projection or television, or both. Here is the new frontier of the audio-lingual method, and it would be appropriate for our readers to explore it, since the conference had planned to do so.

Gustave Mathieu's paper will probably stimulate the most varied reactions because of the range of his subjects and the vigorous presentation of his "ground rules." The reader will soon discover, nevertheless, that all aspects of the paper derive from a comprehensive theory of audio-lingual learning. The details are integrated, like the basic concept of the "integrated laboratory."

Even more provocative, perhaps, is Pierre Capretz's antithesis of "professorial" and "authentic" speech when recorded for laboratory use. He criticises also the nature and organization of the usual recorded materials and the "numerous precepts, doctorally formulated . . . (which) have been exalted to the status of revealed truth." This is a healthy scepticism, for it appeals to systematic experimentation for the ultimate remedies and, in the meantime, Mr. Capretz proposes a temporary solution which in itself is a challenge to the profession.

Everyone who is familiar with the teaching or the publications of Pierre Delattre will welcome his materials presented here which illus-

trate his precise and systematic testing of various aspects of oral production. Proponents of the language laboratory agree that its greatest advantage is in developing superior speech habits, but they have generally neglected to devise valid techniques of testing them, or even of teaching them. Mr. Delattre's examples should stimulate self-criticism first of all, and then a renewed effort to devise materials that will scientifically capitalize on the inherent advantages of the language laboratory.

Rand Morton surveys recent developments in the field of electro-mechanical equipment in the Laboratory. His knowledge is authoritative and his glimpses of the shape of things to come are exciting. Mr. Morton's pioneering work in developing the language laboratory as a teaching machine is scarcely mentioned in the present paper, which is broad in scope and objective in treatment. It will doubtless open the eyes of many persons who think they already "know about the language laboratory."

* * * * *

Our conference of November 27-28 left us with the feeling that we had only made a good start. So much remained to be told, to be learned, to be proposed and explored. Our various materials, experiences, theories and proposals could not be adequately expressed and discussed in those few hours. We were at once encouraged and frustrated. So little time!

The shortage of time, along with the shortage of qualified personnel, is likewise a major problem of our profession in general. After forty years of famine we are suddenly faced with a glut. The national interest requires that our diminished ranks must teach more foreign language to far more students than ever before, and that we do it better than before, with emphasis on hearing and speaking. All this seems an impossibility compounded.

So it is indeed, if only the customary methods are used. But a similar shortage of time and manpower is being solved in other sectors of American life. And our profession is not impervious to progress: we have learned to watch filmed entertainment and to listen to recorded symphonies. Perhaps the "language lab" should be re-named the "choral symphony."

Regardless of name, it can bring masterpieces of foreign speech to all our students, for simultaneous study and oral emulation. This major achievement can doubtless become the basis of further resources, audio-lingual and visual, for our students and our teaching. The work papers on the following pages are aimed at this goal. Now we seek the wisdom and the guidance of our colleagues. To them we say: An hour of your time, spent now in writing an opinion, may save countless hours for the profession and the students of tomorrow. You can help us greatly, and in so little time.

Elton Hocking

RECENT DEVELOPMENTS IN LANGUAGE LABORATORY EQUIPMENT FOR TEACHING AND RESEARCH

F. Rand Morton

INTRODUCTORY STATEMENT: The College Language Laboratory has been recognized by educators and language teachers as an effective tool for language instruction for somewhat more than fifteen years. Surprisingly enough, fewer changes have taken place with regard to its component parts and their pedagogical use than one might have expected from a decade of experience. The lab installation has certainly become larger; the average college lab today serves between 60 and 100 students simultaneously on a library basis where some years ago its average size was only 10 to 30 student booths. Where size has not increased, the lab has simply "multiplied" within a given institution, with a series of individual "classroom" labs built to serve smaller groups (in class or out) of students of different languages. At the University of California at Los Angeles, for example, there is an English Language Lab, a German Lab, a French Lab, and perhaps now a Spanish Lab. It is difficult at the moment to guess which type of installation--the library lab or the classroom lab--each with its peculiar equipment needs and pedagogical operations--will be adopted by a majority of institutions in the future. Recent trends seem to indicate a slight preference for the lab operated on a library basis. Ideally, as long as any elementary language instruction is done in the classroom, it would seem that all colleges should have both types of installation. Several do now (The University of Michigan, Indiana University). Since neither the increase in size nor the number of lab installations make important innovational demands on the lab equipment itself, we may find in this fact an explanation for the continued persistence of mechanico-electronic precedents established years ago with regard to lab equipment. To this subject this work paper will attempt

to speak, after suggesting a first conclusion: that the popularity and usefulness of the college lab, evidenced by its growth, has thus far for the most part discouraged or left no time for a serious investigation of the contents of the lab. Size and number have taken precedence over form and content. A situation not limited to language labs...and happily one to which there are exceptions. Finally, and most recently, the concept of the "teaching machine" has been felt in the lab and has, among other things, suggested ways in which the lab can serve profitably as a research tool. Should this function become a real one in the lab, we can be sure that more attention will be given to its component parts in the future.

CLASSIFICATION OF LANGUAGE LAB MECHANICO-ELECTRONIC GEAR: There are a variety of ways to designate and categorize the different mechanico-electronic components found in today's lab. The one which I shall use here looks primarily to the functional use of the items it describes which seems most helpful for the purpose of the present paper. It establishes three broad classes of equipment: stimulus gear, response gear, and control gear. By stimulus gear I shall refer to those component parts whose function is to present to the individual student both the auditory and visual materials afforded him as models for his own verbal behavior or as stimuli to trigger pre-taught verbal responses. By response gear I designate that equipment whose primary function is to receive and register in some way all that the learning student says (and to some extent does) while in the lab. Control gear, finally, categorizes that equipment whose primary function is either to regulate and coordinate the functioning of the stimulus gear or to provide the student with a means for checking (feedback) on his own verbal behavior. This same equipment, of course, can serve for data collection and recording equipment for the purposes of research in applied linguistics and the psychology of language learning.

I STIMULUS GEAR

A) Audio

1) Playbacks (tape)

a) reel-to-reel

It is discouraging to report that little has been done in this important equipment area. The majority of college labs continue to use some form of a reel-to-reel tape transport made by one of three companies (Viking, Bell, V-M) whose basic patterns are now at least ten years old and which were created originally for the home tape-recorder market. Few are of heavy duty, industrial use construction for use on the continual forty hour a week basis that many of them receive in the lab. All require constant attention while in use and considerable service and maintenance time. Companies building more ruggedly designed equipment (Ampex, Crown, Magnecord) have been slow in entering the language lab field and few labs today are using their equipment. Tape transports designed for multiple track playback rarely permit more than two channel simultaneous audition. Elton Hocking (Purdue) in collaboration with Stancil Hoffman Corporation has recently designed and installed a tape transport with associated amplifiers which permits both the recording and playback simultaneously of a large number of audio channels laid down on wide tape, sixteen channels being theoretically possible on a one inch magnetic tape. One can foresee difficulties, but this is, nevertheless, the first major effort to provide a maximum number of independent audio channels with a minimum of mechanico-electronic equipment designed to operate automatically over a long period of time in a remote position.

In spite of the great room for improvement, it seems clear now that the reel-to-reel tape playback transport is not the best suited as a playback device in the lab. Automation of this equipment is difficult (e.g. automatic reverse, forward, rewind, etc.) and rarely successful. Too much time is lost in its use. When placed in the student's booth it distracts and when placed at the teacher's console or the control center it demands constant attention. As a presentation or stimulus device it has no particular advantages.

b) cartridged reel-to-reel

The RCA cartridge (released now for unrestricted use to American Moulded Products and adopted primarily by MRI for lab use) solves some of the problems of the conventional reel-to-reel playback. Automation of playback and operational modes can be more easily accomplished but still not entirely satisfactorily (too much time being now required in changing from mode to

mode.) Cartridges can be loaded without too much difficulty and once closed may be easily catalogued and filed. Quarter inch tape is used, at present permitting a maximum of four independent audio (or record) channels, although none utilize this potential as yet. Playback transports designed specifically to handle this cartridge (by Viking, Bell and others) are much simpler and more ruggedly constructed than the conventional reel-to-reel transport. That of Bell (MRI) is the first tape transport designed specifically for use in the lab. Chester Electronics has also recently developed a special transport, designed specifically for lab use, to handle both the RCA (four tracks and a modified RCA cartridge loaded with one or two inch tape and capable of providing, with the latter, up to thirty-two different audio playback (or record) channels. Since the Chester transport utilizes three heavy duty motors (MRI uses only one) all the operation modes are actuated electronically rather than mechanically and rewind time is rather infinitesimal. In its field it seems the most promising piece of gear yet to emerge. Both it and the MRI transport are presently in production. There are other reel-to-reel cartridges and cartridge handlers, similar but not identical to the RCA but with no particular advantages (Linguapac). Other language laboratory firms (Califone) have modified existing (Bell, Viking) reel-to-reel tape decks, anchoring the magnetic tape to both reels and covering that portion of the transport, so that these machines operate, seemingly, in a manner similar to those of the true cartridge-designed transports. This seems a less than happy arrangement.

Columbia has recently announced a new type of "self threading" reel-to-reel cartridge and transport unit using one-eighth inch magnetic tape. It is difficult at first blush to foresee specific uses of this equipment for lab use but it should certainly be investigated.

In general, the reel-to-reel cartridge and its transport offer several advantages over the conventional reel-to-reel transport. Some have been suggested. They can certainly be placed with less misgivings both in a remote location (automatically controlled) or in the student's booth for his own operation without requiring or provoking attention and thus with minimum

distraction to the student. They are more ruggedly built and should last longer, with less service or maintenance, than the conventional reel-to-reel playbacks. (The Chester equipment has been built to military specifications and should last ten to fifteen years with twenty-four-hour use.) The cartridges will not hold a tape as long as the reel-to-reel transports, but this does not seem a disadvantage. (They can be "rigged" to provide an automatic two-hour continuous program with only two short pauses for rewind.)

c) continuous-loop cartridges

These cartridges contain a single "reel" from which quarter-inch magnetic tape feeds itself across the playback heads and then rewinds itself in one continuous movement. Two such cartridges currently available (Fidelipac, Cousino) have proven themselves highly reliable (more so, certainly, than any reel-to-reel cartridge). Special transports--which due to the minimum requirements for moving parts made by the loop cartridges are easily (and inexpensively) made rugged and trouble free--are now manufactured by several companies (Viking, Conley, Cousino, Linguatrainer). Due to its peculiar operational characteristics, a number of loop cartridges can easily be stacked and played on a single, common-mandril type transport. Theoretically twenty or thirty cartridges, each containing four quarter track recordings, could be handled by a single transport in less space than that required now for a conventional type recorder.

Other similar cartridges (Pentron, Viking) have appeared but not proven themselves as reliable as the first two mentioned. (See the technical report on loop cartridges made by Amplifier Corporation of America for the U. S. Navy, Division of Training Devices.)

Surprisingly enough, the endless loop cartridge with its impressive advantages as a presentational or stimulus device has not been exploited to the extent one might expect in the lab. The explanation is historical. A loop tape seemed the most natural means for the playback of pre-recorded materials on a regular schedule in the early days of the language laboratory. Many tried it. Unfortunately, the loop devices then available were not

satisfactory nor were there special transports designed specifically to handle them. The resulting unhappy experience soured many experimenters and it has apparently not yet been forgotten. On the other hand, in The University of Michigan's lab all playbacks are of the loop type and have been for several years. At present, thirty-three are used simultaneously to provide up to forty-five different instructional programs, also simultaneously. They operate from 8 a.m. until 10 p.m. daily and need little care or supervision. A new language laboratory system, now being installed, will continue to use these loop cartridges, expanding their number to one hundred and making available through multi-track recordings some four hundred individual simultaneous programs.

As simple presentational or stimulus devices the loop cartridge and its associated transports have no disadvantages (in the mind of the writer) if the teaching materials used are appropriate and well designed. Many persons feel that the present (although not inevitable) lack of fast forward and reverse on these loop transports severely hinder their pedagogical application. But this then involves pedagogy. Another criticism often heard is that multiple channel recordings are difficult since each program track laid down must of physical necessity be the same length. But again, a pedagogical consideration not a mechanical one. Two points against the continuous loop cartridge can be made, however. Because of the peculiar manner through which the tape winds and reels off, slipping always against itself, some binding and resultant malfunction may be expected, particularly if used in areas where heat control is a problem. For the same reason it is doubtful that a tape any wider than one quarter inch can be successfully used in such a cartridge--presently limiting the number of tracks to be laid down to four on each. Secondly, the two companies now manufacturing these cartridges have priced them so exorbitantly high that one feels a little ridiculous in purchasing them. (The RCA type cartridge and the continuous loop cartridge cost approximately the same in manufacture, but their retail price, minus the usual educational discounts, separate them too widely to permit comparison. Tant pis.)

Finally, it may be said that, for library lab installations where students are permitted to check out master recordings for individual drill, the loop tape playback linked with other equipment for dubbing seems most ideal. The cartridge can be treated much as a book and when it is placed in operation it has minimum distraction for the student. The tape playbacks and cartridges discussed above are no longer experimental but long proven in the field and hard to improve in the future. They have not yet been exploited fully in the college lab but those wishing to do so can begin now with confidence that the equipment available will meet satisfactorily the most demanding requirements he can make. There will be improvements. But a new kind of recorder-playback, the extruded memory drum, is also in development and may in the next five or ten years prove a more useful tool for language training than the tape cartridge.

2) Playbacks (records)

a) acetate and vinyl

There seems nothing spectacular to report for this type of playback equipment; no radically new advances are easily possible or urgently needed. With the acetate (do-it-yourself) disk almost entirely abandoned by the language laboratory, and the commercially made vinyl disks increasingly replaced by tape, little new will probably happen here. On the other hand, new, inexpensive and easily packaged plastic recording materials (as that used in the "record booklets" of the Modern Language Project of the Massachusetts Council for Public Schools Inc.) may easily revolutionize the concept of "homework" for language instruction and stimulate the development of miniature "pocket size" record players for use by students in study halls and homes. A record playback designed specifically for individual student language lab booth use has recently been developed and placed on the market by the Newcomb Audio Products Company and incorporates several excellent features. Califone now makes available a long series of fairly expensive and excellent quality playbacks with special cueing devices which would enable the student quickly to locate a desired passage on a record and repeat it as often as he wished. B. F. Skinner of Harvard has also been designing

such a playback, which would permit the student to select accurately an even more minimal portion of the entire recording, but his is not yet available. Record playbacks are easily available now with multiple output jacks to permit a sizable group of students to audition with earphones a particular recording. But this is hardly innovational. Possibly, when the potentials of stereo recording to shape verbal behavior are more fully known, the record player will again seem useful for general language training. The use of the "rhythm machine" (another development of Skinner which operates in part as a record player) in language training may also make us return to consider them.

b) magnetic disks and belts

Only one company (MRI) now manufactures a magnetic disk playback (and record) for the lab, employing, incidentally, a patent issued first in 1898. The operation is similar in all respects to that of an ordinary record playback. Latest models of this equipment have a built-in erase head and mechanism and circuitry is even available to permit complete remote control of all the playback's functions, including repetition of a given passage. Original skepticism regarding the quality of sound reproduction obtainable with the magnetic disk remains alive and justified in the minds of many. Present quality is just barely passable and cannot compare to that of tape (excessive noise, poor erasure, incomplete frequency spectrum). Better quality could be obtained immediately if the company would use superior materials in the manufacture of the disk, but at best it is doubtful that the resultingly more expensive disk could equal the performance of tape, all other associated components being equal.

Aside from quality, the magnetic disk, when placed as usual in the student's booth, has high distraction appeal. For this reason, it is not often used as a stimulus device, the master recorded materials normally being placed on tape and channeled to the student's earphones and disk recorder for simultaneous response and dubbing: that is to say, the magnetic disk is used primarily as a recording facility (response and control devices), not as a stimulus device. But if the student needs to record his voice at all

(for purposes of language learning) it is when he works to discriminate and reproduce the sounds of his target language. It is precisely for this critical acoustic phase of language learning that the sound quality of the magnetic disk does not now seem to be adequate. (but see below, 7, a)

Magnetic belts, as used principally in the language lab equipment manufactured by Dictaphone Company, suffer, in general the same disadvantages of magnetic disks and, if anything, perform less well.. In both belt and disk it is possible that spacing between recording grooves is insufficient to provide good results with present recording procedures.

Due to its simplicity and ease of handling the magnetic disk or belt is perhaps most useful for purposes of student testing when pronunciation is not important. A master or live recorded test may be administered quickly and easily to a large group of students in booths equipped with magnetic disk recorders, the test recording collected and graded in less than half the time necessary if recordings have been made on tape.

3) Playback heads (magnetic)

In the last two years miracles have occurred here and more will occur soon. Apparently, college language labs are the last to hear of them since labs continue to employ heads provided by equipment makers rather than head makers, and rarely insist that these heads meet any particular specifications. Suffice it to say that major magnetic head companies (Brush, Bernard Lipps, Michigan Magnetic, Nortronics, Shure) can provide playback heads to meet almost any specifications laid down. Cost for the best would be similar to what many now pay for the worst.

4) Pre-amplifiers (playback)

The pre-amplifier (necessary to boost slightly the audio signal output from the playback head or phonograph cartridge) prior to power amplification from the amplifier presents no real problem today nor serious need for improvement as far as its use in the lab is concerned. Traditional circuits and many well-proven commercial units are readily available. One point may be made here. It is possible that future controlled experimentation will substantiate the opinion of many now that some skewing of the frequency (output) curve--

boosting by some 10 to 12 db the amplitude of frequencies around 200 cps. and around 7000 cps.--may facilitate for the student the quicker discrimination of all such speech sounds. Typical pre-amps now used in labs permit no such random boosting within the output frequency curve. When and if a company undertakes to design an integrated set of electronic components for the lab (playback head, pre-amp, amplifier, earphones, mikes) this potentially valuable mechanico-electronic control might well be incorporated into the pre-amp. (Such skewing is now normally done--when it is--in the master recording itself. In the long run it may be wise to leave it there.)

5) Amplifiers

Conventional tube-type, chassis-built amplifiers are still in most general use. Recent advances in etched or printed circuits, transistorized components, and flat-board, plug-in mounting provide considerable improvement for modular construction, servicing of equipment and space saving. No new labs should be installed without such amplifiers. In performance, however, little has changed. Good dependable amplifiers are still difficult to find and costly. Among them, those of Bernco, Califone, Chester, Linguatrainer are representative. Minimum specifications for language lab use (easily met with good design) are as follows:

Frequency response ±2 db, 80-12,000 cps.
Harmonic Distortion: no more than .2%, 200 to 15,000 cps. Measured as RMS voltage of total harmonic components up to 40 kc.
Output level OVU at 1000 ohms
Noise -65 db. ref. 15 dbm output
Maximum unclipped signal output 8 volts RMS
Gain: 75 db.

Ironically, it appears to cost very little more to build a good amplifier than a poor one. Between the two, perhaps the greatest important difference (for the lab) is that of inherent noise. Amplifier circuits which behave beautifully (no noise) when used with loudspeakers may be impossible when used with earphones. All "traditional" amplification circuits have been engineered primarily for speakers. Few amplifier circuits have been designed specifically for headphones. Hence the scarcity of good ones. Ideally, amplifier,

earphone, mike and pre-amps should be designed "together" as a single, electronically integrated circuit. This has yet to be done by a language lab equipment manufacturer.

6) Headsets

Traditionally, this lab component, the phones, has been the weakest link within the lab's acoustic chain. As in the case of magnetic playback heads, much has recently happened but few college labs have been informed. To summarize: High impedance phones (crystal) cannot transduce with the sound quality necessary to facilitate discrimination of new language sounds. Low impedance magnetic or dynamic phones seem most appropriate for this with preference for the latter. These phones require perfect matching with associated amplifiers, and being less efficient than high impedance phones, they must have ample power to drive them. The best military phones available today "too expensive for the language lab", have a smooth or "usable" response of between 50-8000 cycles. High frequencies may be transduced but at too low a volume for easy perception. (Enthusiastic claims of commercial language lab companies for phones which extend to 12 or 14,000 cps. are simply misleading.) Aside from attenuation at low and high ends of frequency range, no other type of distortion should be noticeable. Quality of sound is also affected importantly by the phone housing and ear-piece. Unless this unit entirely covers the ear, fits snugly against the head and permits the necessary distance between the diaphragm of the phone and the student's ear--and the necessary distance between the diaphragm of the phone and the back of the housing --the sound will be inferior. The same ear-piece should also guarantee at least a 40 db. rejection of ambient room noise. Headsets which meet these minimum specifications are few in number and relatively expensive. Among them: Sharpe Circumaural Phones (temporarily unobtainable), Telex-Dyna-Twin phones, Chester HPC-106, Koss phones (whose head bands are too flimsy for language lab use).

The well-known, wartime Permaflex earphones, occasionally found in surplus stores today, have been used most successfully in a number of lab installations. Despite its ridiculously low price of seven or eight dollars,

it is questionable to equip a lab with components not easily available in stock for either replacement or future expansion. For ease of maintenance, a good general rule would be to use only one make and model throughout all lab installations in any one institution for each individual component part making up the lab.

In addition to the above acoustical specifications, the lab phone should be ruggedly made, lightweight, indestructible. The relatively few phones which meet all these specifications and are presently on the language lab market indicate how much work must yet be done in this area of equipment... perhaps the most crucial of all in a lab.

7) Tape (magnetic recording)

The most interesting development here is the so-called "sandwich tape" now under development and in experimental use by Minnesota Mining and Manufacturing Company. Unlike conventional magnetic tape which provides a recording surface of iron oxide on a plastic backing, the new 3M tape (experimental number LR 1117) places the iron oxide layer between two coatings of acetate plastic. The oxide, then, does not come into physical contact with the recording and playback heads, while the plastic coating, which does, keeps them clean and without wear. Only disadvantage is a slight loss in the high frequency output which can be easily equalized in pre-amplification. For multi-track machines where head wear is important this new tape will indeed be valuable.

Conventional audio-range tape--no matter its manufacture--seems more or less standardized today. Scotch, Audiotape and Irish are among the most popular and equally satisfactory for student copies of recorded materials.

For master recordings, personal experience indicates Scotch #131 or #138 to be useful. In recording materials in which isolated sounds are utilized (as in some pronunciation tapes) a high output tape such as Scotch 120 may best be used since this permits a low recording level, minimizing print through and signal-to-noise problems. Lubricated (or "greased") tape for use in loop cartridges is made by several companies, that of Soundcraft (#441 and #442) being one of the best.

In language lab use, the problem of print through in magnetic tape recordings seems the most important one to overcome at the moment. Sandwich tape may help here too, but correct recording techniques and tape storage may be the most important manner of minimizing its presence.

8) Program distribution or selection equipment (audio)

The problem of making available to the individual student that particular lesson, or minimal portion of a lesson, which he or she needs, to permit each student to proceed at his own learning pace, the primary justification for any lab, has long presented perhaps the most difficult operational or functional problem in the college language lab, particularly in those utilizing a library lab system. Two different operational methods have obtained over the years: a) permit the student to withdraw from a central library the particular lesson, or lesson segment, and work individually with it at a booth, exchanging it for another when necessary; or, b) channeling through a switching arrangement and associated audio lines the desired lesson or lesson segment being played at a central location within the lab. In the second method, the selection and channeling of the recorded material may be accomplished either by a monitor at the central playing location (control center) or by the student in a booth. Recently a compromise method has been used in many installations which channel to the student the pre-recorded master lesson which is then copied by the student on the tape or disk recorder in his booth. On first audition the student, of course, has no control over his material; on subsequent playings of his copy he is at liberty to control its presentation. Advances in equipment utilized in each of these distributional systems can be briefly reviewed.

a) Master library system: The easy availabil of sufficient copies of each pre-recorded tape to permit students desiring a copy to work simultaneously has long been a requirement for this system. Copying of tapes (with adequate quality control) has and will continue to be a difficult task in the lab. Recently multiple tape copiers with good specifications have been made commercially available by MRI (at a cost no longer prohibitive) and Magnecord, which should considerably lighten this task and makes

its system far more feasible. Too, a number of commercial companies now undertake to provide such a copying service at a reasonable fee. The use of cartridges also implements this system by assuring that copies will not be damaged or erased. More important, here is the development of the wide tape cartridge on which up to thirty-six lesson segments can be laid down on as many channels. A student could presumably check out one or two such cartridges and work with them for an entire week. While working, the student would progress from one segment (channel) to another by push-buttons connecting the thirty-two playback heads on the playback transport in the booth.

The use of commercial vinyl records or magnetic disks to provide multiple copies of master lessons presents too many problems as long as cost and sound quality are important considerations. When sound quality is not important (and at a certain advanced point within the linguistic progress of each student it should cease to be--as witness the materials used at Yale's Far Eastern Institute) the magnetic disk would prove perhaps the easiest means of duplicating master lessons for distribution to individual students. But special equipment for multiple duplication of magnetic disks does not yet exist.

b) Central library system: It is pleasant to report that major "breakthroughs" have been recently made in language lab channeling and program selection equipment. In the past, if more than one lesson channel were to be provided in the student listening booth a manually operated, rotary selector switch has been necessary, placed either in the student's booth (for his use) or at the monitor's console, (central control) for use only by the monitor. In the second position, the rotary contact switch has performed fairly well when high grade units were employed. In the student position, particularly when the number of contact points exceeded twelve, their trouble-free operation has left much to be desired. More important, the rotary selector switch of twelve or more positions requires a wiring complex that discourages the most optimistic engineer. Whenever two or more audio cables containing separate programs are in close proximity, the problem

of cross talk and hum must be dealt with and it is difficult to do so successfully. This fact, as well as expense, has discouraged most language lab equipment makers from supplying more than eight or ten independent audio channels for selection from student booths--and has limited the number to be selected by the monitor in the central control station to a maximum of forty or fifty. At the same time, the pedagogical and operational advantages of making available for student selection as large a number of independent audio channels as possible (particularly in the library operated lab) have become increasingly obvious. To solve all of these problems a number of advanced distributional systems have recently been developed especially for language lab use. These are:

i) The Stroger switch: This is the step-circle switch traditionally used in large telephone exchanges. It can handle a relatively limitless number of program channels, selection being done either by student in booth or by monitor through a conventional telephone dial, and it requires only two audio leads per booth. Disadvantages: relatively expensive as a capital outlay (but less expensive over a twenty-year period than any other equivalent system); difficult to provide 100% trunkage (although this may not be necessary in the lab); requires considerable space. (Typical installation at Florida Presbyterian College, Professor Trakas.)

ii) Dial X step switch (Kellogg, Stromberg-Carlson): This is a switch which moves vertically and is limited practically to a pre-determined number of channels (e.g. 20-40-80.). Selection is effected either through a dial or push-buttons in booth or central control. Least expensive of new switching systems (approximately $50-$80 per booth). Disadvantages: relatively limited number of program channels without doubling original cost; systematic preventive maintenance required; theoretical potential of intermittent cross-talk. Particular advantages: program selection can be additive [student dials 3 digit lesson number (F 10) and then selects segments or lesson (always in numerical order) by dialing only one digit (1 for first segment; 2 for second). Ability of student to dial each succeeding single digit could be made dependable on his achievements within preceding lesson segment.]

iii) Cross-bar switch (North, Kellogg, Western): Unlike above-mentioned switches, the X-bar employs no mechanical or motor movements but selects through a system of energized relays. Expandability of program channels is virtually limitless and both initial and expansion cost is small. It requires little or no maintenance and has a service life of twenty years. It requires minimum space and installation time. Selection is made through dial at student's position or central control. It has maximum flexibility (100% trunkage), minimum noise characteristics. Typical installations (in progress) at The University of Michigan (2,500 program channels) and University of Georgia (Howard Jordan, 100 channels).

iv) RF tuner and multiplexing: Unlike the above mentioned switches, tuning and multiplexing systems require either one or no audio cables between student booths and master playbacks. Recorded programs are "broadcast" and selected at student positions much as one would tune a radio. Disadvantages: In its present experimental stages this equipment imposes serious limits on the number of program channels to be made available. Cost is also relatively high. While potentially capable of simplest installation and operation, as well as superior sound, it will forfeit the special advantages that electro-mechanical switching systems (above) have in controlling other language lab gear (response and control). In general, the less physical motion necessary in any switching system, the more dependable is its general operational characteristics. At present, the Cross-bar system seems most appropriate for language lab program distributional needs. Solid state switching, however, is now in developmental stages and should be available within the next five to seven years. This system, with almost no moving parts, would seem close to ideal. Electro-magnetic rotor switching is also a distinct possibility in the future.

With regard to any program distribution or selector system--be the number of programs involved two to two thousand--perhaps the most important consideration is that of minimum noise and crosstalk. As soon as more than <u>one</u> audio signal is utilized in a laboratory the problem of crosstalk (the "infiltration" of one channel's audio signal into that of another) becomes

a very real and perplexing one. There exists, however, a general rule which, if followed, should minimize this kind of audio disturbance. Stated most simply it would be this: There should be no such thing as a common ground in any language laboratory unless it ties together, finally, a bank of remotely positioned amplifiers. Strict adherence to this rule would obviate much expense in equipment maintenance and much traditional frustration.

B) Visual

1) Motion picture, slide filmstrip projectors, viewers

Interesting developments along these lines can best be discussed under the heading of Audio-Visual. All of the equipment listed has at least become, according to the manufacturers, "easier to thread" and capable of automatic operation. Let it simply be said here that both manufacturers and language lab personnel have been rather unimaginative with regard to the design and use of the "viewer"--a basically simple optical device that seems to have tremendous potential for the language learner. There are some now which give a surprisingly fine, large picture and could be used in a variety of ways in a laboratory booth. But perhaps final responsibility lies with language lab materials makers to give us something to use in them.

C) Audio-Visual

1) Motion-picture projectors

Sound motion-picture projectors continue to sound poorly and make far too much noise to recommend them overly for language lab classroom or library use--a situation which has existed for the past twenty-five years. Most important technical developments here are in the field of the cartridged sound-film projectors and the "packaged" or "suitcase theatre". The cartridged sound-film permits repetitive showings of up to fifteen or twenty-minute sequences and is small enough to be used in a large booth. Again materials are necessary. The "packaged" projector, screen, and sound system permit all of these units to be picked up by one hand and set in front of a class for the most momentary use.

2) Slide and filmstrip projectors with synchronized sound

A number of companies now manufacture integrated sound-still picture presentational units that are small and easy enough to operate to commend

them to language lab or classroom use. These systems require a control channel on either tape or records on which "blips" have been recorded to trigger the frame-advance mechanism of the projector. Representative makers are Synchro-Mat, Applied Communications Systems. But what should quickly revolutionize all language teaching materials, and language laboratories as well, is a sound-on-filmstrip projector now under development by the Victor-Kalart Company. It will be available next September. Sound and picture are recorded on the same filmstrip. Synchronization of picture and spoken text is therefore perfect. The projector itself is the size of a portable typewriter and can be used easily in a student booth. Multiple copies of individual films are inexpensively made. This piece of equipment alone could take the place of all the component items enumerated thus far in this paper. It is certainly the most exciting new development in audio-visual tools yet to appear.

3) Closed-circuit television in language laboratory

CCTV may best be considered an audio-visual distributional device rather than a playback device. It would permit synchronized sound and picture (now either still or motion) to be channeled to student booths from a remote position. Unfortunately no experimentation along these lines has come to my knowledge.

II RESPONSE GEAR

A) Audio

1) Simultaneous

a) microphone

Microphones in the college lab have been a constant source of worry. Few good ones are currently available but a number of companies are working to produce mikes to meet language requirements. One has already emerged (Chester-Telex HMC-1). Its description follows: boom type, attached to left earpiece of headphones, light weight (4 oz.), small (size of a dime), low impedance dynamic (1000 ohms), frequency range 70-10,000 cps plus or minus 3 db.; close-talking, noise-canceling (cancels out all room ambient

noise to -45 db.). This last means, effectively, that an acoustically treated booth is no longer necessary (for purposes of sound absorption--psychological isolation by booth is still highly desirable in the library type lab). In addition, the mike's close-talking characteristics oblige the student to speak at a normal conversational level; this reduces overall average room noise almost 70% and discourages the student from distorting target language speech sounds by overemphasis or the use of excess energy. (But it also places a high responsibility on the master voicer to produce natural, non-stressed speech sounds for the student to imitate.) Judging by work in progress now, decisive achievements in microphone construction will take place in the next five years. Even now it can be said that the Chester-Telex mike and others like it soon to be released make obsolete all microphones now in lab use. One word should be spoken against the ridiculous notion that the student's microphone may be held in his hand or positioned in front of his mouth on a goose neck. Both procedures hinder to some degree the ability of the student to respond naturally to the audio stimuli perceived. Language students, like others, should sit up straight, not hunch, be unencumbered and free to make needed gestures.

b) student amplifier

Most language labs provide circuitry to permit the student to hear in his earphones his oral responses simultaneously as he makes them. An appropriately equalized amplifier is necessary for such procedure. Such an amplifier should meet all of the specifications already cited for the playback amplifier (I, A, 5, above).

c) motor response facilities

The process of training auditory discrimination in the lab can (it seems now) be speeded if the student is provided with a response key or "button" with which he can respond quickly to the auditory tasks of matching to sample or yes-no discriminations, and even true and false tests. Much experimentation needs to be done to determine the most effective type of response mechanism here but the existence of any such device would make serious demands on associated lab equipment. It would mean, among other things, that each

teaching or lesson program would require not only a "program channel" but a control channel. Dual channel playbacks (and complementary distributional systems) would be required. This may point finally and once again to the use of individual, dual-channel tape playbacks in each lab booth and the use of individual pre-recorded lesson tapes for student use. (The laboratory workbook--now becoming popular--is unquestionably a "response" facility in the lab. Due to its textual nature it falls outside the considerations of this paper. But its use certainly implies a student booth sufficiently uncluttered to permit its use.)

2) Delayed

a) student recorder

Whether language students should be given the means for recording their responses to permit self-evaluation on delayed playback has long been a bone of contention within the lab. Opinion still seems evenly divided. The fact that "feedback" or "reinforcement" (which is what this procedure attempts to provide) must be accomplished within approximately three seconds of the initial response to be optimally effective would indicate that the delayed feedback provided by conventional tape recorders or even magnetic disks is hardly useful. While the question remains undecided it seems unnecessary to discuss the point (and its implications for equipment) here. It can be said that at present all equipment used in the student's booth for the purpose of recording his own spoken responses leaves much to be desired but is not critically in need of improvement. It should, of course, meet the minimum specifications already submitted for the student amplifier as far as frequency response and distortion characteristics are concerned. (Few do.)

One innovation here should be mentioned. The use of a cartridged loop tape permitting recording time of one, two, and three seconds has been proposed by at least one language lab company (Conley) but to my knowledge never developed commercially. Use of this cartridge and associated transport and amplifier would permit the student, whenever he wished, to hear immediately played back the last one, two, or three seconds of the master lesson and his own responses. (Intervals of five, ten, and fifteen seconds

could also, of course, be provided, as well as any other series.) If he worked individually with the master tape (cartridged) he would lose none of the master lesson as he stopped to hear the playback, since the master tape would cease to move during the playback time. There are certainly possibilities here.

b) counters

Similar to the motor response facilities for immediate response is the counter facility which experimentation may advocate for delayed response. Operating on an accumulative basis, these counters (activated either by student operated "answer buttons" or voice activated relays) are able to give the student an objective (statistical) evaluation of his work, show him where he needs more practice and, in some cases, make it impossible for him to proceed to new materials until his achievement on present ones is adequate.

In summary, the response gear of the lab is at present minimum and stands in need of far greater research, experimentation and development than either stimulus or control gear. One explanation for its present meager development may lie in the similar paucity of scientifically designed language lab teaching materials which would be the first to requisition and prescribe the response facilities for the students. At the moment, the student in the lab works pretty much in a vacuum with regard to information, or feedback, to help him make and control his responses.

III . CONTROL GEAR

A) Monitoring facilities

1) Language lab monitoring console

The "electronic console" and turret assembly usually provided in the classroom-type lab--less frequently in the library type--should most appropriately fall under the category of "response gear." It exists, theoretically at least, to provide the student occasionally with information regarding his work and progress. In practice this seems rarely to be the case. Particularly in the classroom laboratory where students are listening and perhaps recording a relatively lengthy (fifteen-thirty minute) lesson, it is almost dangerous for the teacher-monitor to "cut in" and make suggestions or corrections on a

particular segment of the lesson, for the result may be that in correcting a minor error far more important material will be lost and the student must wait a considerable length of time before he can hear it again. The monitoring console which provides means for the student to call the monitor's attention has at least the advantage of permitting the student himself to decide if he wishes to spend a minute or two under the direct tutelage of the teacher. Whether he should be permitted this decision is another question.

In the library operated lab the central monitor console is at best awkward from a pedagogical point of view. Its presence assumes that the teacher at the console is able to monitor intelligently and effectively all of the students working in the lab, whatever their level or language. But to seat two or more instructors at a single console generally results in confusion and frustration. It would seem, at present, that the monitoring features of most language laboratories serve a less than pedagogical function and they might be manned more appropriately by technicians than by teachers.

Some improvements are possible now. The use of the several dial selector systems discussed above permits the easy sifting and subsequent channeling of different students' work to individual, and much smaller, monitoring consoles. Thus, all students working on an elementary French lesson can be helped by an instructor especially assigned to them. And by permitting students to select a large number of extremely short lesson segments, the monitors would be less hesitant to interrupt a student, knowing that after their corrections, the student could immediately return to the work he had been doing without real loss of time.

Perhaps the most important function the monitor console can, with proper wiring, be made to serve in the language lab today is that of implementing and facilitating the simultaneous testing of large groups of language students. This is particularly the case if among skills being tested are those usually categorized under "oral production." Appropriately designed and wired, the monitor console can permit the examining teacher easily to accomplish the following: a) give all students spoken instructions both prior to and during testing; b) ascertain that all students are receiving the

test materials in an identical manner; c) activate and stop all student recording devices (on which individual student responses are being recorded for grading) at the same time. Note that with such an arrangement testing stimuli need not be recorded on student tapes, these being utilized solely for the recording of student responses, thus saving much time in their replay and grading.

The control of operational modes of student recorders by the monitor console is normally accomplished by electro-magnetic mechanical relays. Occasionally all relays will operate properly over a period of several hours. More typically in large lab installations this is not the case. Until other than electro-mechanical means are found--and employed--for recorder operation some amount of relay failure may be normally expected and the teacher should resign him or herself to retesting a certain percentage of students after each mass examination. This introduces factors of pre-experience which may influence the re-tested student's grade. But at this point we are in no position to split such psychometric hairs.

The development, already referred to, of the multi-tract, sixteen to thirty-two channel cartridged tape recorder will solve many of the mechanical problems experienced in present testing procedures. Not only would one recorder alone be sufficient to record the responses of up to thirty-two students, but once accomplished the task of grading would be greatly facilitated, there being but one tape to manipulate, the sampling of channels being effected by use of a single switch.

In general, the facilities provided by the lab monitoring console and its associated facilities seem most helpful in testing previous learning and in implementing research in language learning rather than in carrying out this learning itself. New, slow speed, voice activated recorders (e.g. Uher, Tandberg) placed in the console now make it possible to record all of the work (of both student and instructor) accomplished in the lab during the day. A replay and analysis of such a record should provide invaluable and exciting information to teachers and materials writers to help them improve both.

2) Electronic control gear

Under this sub-category would fall the equipment required for "blipping" control tracks on pre-recorded tapes, filter circuits used for discriminating significant elements of student responses and consequently controlling the presentation of new stimuli; "vocalic extractor" circuits for use in preparing tapes for the teaching of pronunciation and sound discrimination of students; stereo circuits permitting the separation of model and student utterances and the speech stretcher which has obvious applications in the lab but is still too expensive.# This gear is in small use now because much experimentation is needed to know best how to use it. Its potential presence in the lab, however, indicates how important the language laboratory can now become not only as a teaching device but also as a research tool.

TESTING THE ORAL PRODUCTION OF LANGUAGE STUDENTS
(by techniques that are
appropriate for an "active" laboratory.)

Pierre Delattre

Some practical notions that guide us every day in building tests of oral production are assembled here. The examples are given in French. They are abundant and cover most levels from elementary to advanced so as to offer ample choice to the teacher who wants to build his own test. This is not a model test; rather it is a classification of principles and examples from which to draw. In pronunciation, for instance, 24 phonetic differences between English and French are listed. These 24 items include practically all the major phonetic features that can be tested, and are the result of long research. No test should include more than a few of those features and the ones that are selected should agree with the level of the students to be tested.

The basic principle for objective testing is here one of division, of isolation of the difficulty. The more we isolate the various aspects of oral production and the better we balance them, the more objective the test will be.

In isolating aspects of oral production, the following divisions and subdivisions have been found convenient:

A. Testing pronunciation
   - A1. In phonemic features (distinctive).
   - A2. In phonetic features (non-distinctive).

B. Testing fluency
   - B1. In morpho-syntactic patterns.
   - B2. In vocabulary patterns or frames.

A-1. Testing Pronunciation in Phonemic Features

The ability to produce clear phonemic contrasts can be tested by means of minimal pairs. The pairs presented are to be mimicked by beginners; mimicked and read by advanced students. The beginner who is not yet proficient at reading aloud, or the student who has learned oral material without reading or writing, can only be tested by loud mimicry. For the advanced student, a combination of loud mimicry and loud reading will give a more complete picture of his oral proficiency, for in the reading he will be tested also in his ability to overcome the "traps" laid by orthography.

In order to build sets of minimal pairs, one must be well acquainted with the distinctive features of the target language.[1] The distinctive features can be described and classified from three different angles which do not always corelate: articulatory, acoustic and perceptual. The articulatory description is most convenient for consonants and vowels; the perceptual for prosodic features (rhythm, accent, intonation).

Roughly, the number of articulatory features that may distinguish one phoneme from another in French words varies from one to four. Peur and port are mainly distinguished by a single feature: front/back--the tongue alone changing position; quitte and conte by four features: front/back, spread/rounded, close/mid, oral/nasal. Habit and ami are mainly distinguished by a single feature: oral/nasal--the velum raised/the velum lowered; peine and laine by four: voiceless/voiced, occlusive/constrictive, labial/dental, central/lateral.

Obviously, the smaller the number of distinctive features, the harder it is to perceive or produce the contrast clearly. In testing, therefore, we should use mostly minimal pairs based on a single articulatory feature.

They can be presented in one or more of three ways:

1. For basic notions on French distinctive features, see French Review, 23, 6: 591 - 603. May, 1960. (Reprints for sale, National Information Bureau, Armant Begué, Brooklyn College, Brooklyn 10, N.Y.)

a) In words: (Minimal pairs should use material covered in the course.)

prier/briller	(voiceless/voiced)
oncle/ongle	(voiceless/voiced)
ils sont/ils ont	(voiceless/voiced)
verdi/verni	(oral/nasal)
café/cassé	(labial/dental)
Louis/lui	(tongue: back/front)
scier/suer	(lips: spread/rounded)
beurre/bord	(tongue: front/back)
jeune/gêne	(lips: rounded/spread)
il part/ il perd	(jaws: open/half-close)
moule/mule	(tongue: back/front)
passer/penser	(velum: raised/lowered)
défont/défunt	(tongue: back/front)

b) In sentences: (The vocabulary, especially the minimal pairs, should use material covered in the course.)

Cette robe vient de Rome.	(oral/nasal)
Elle brise celle qu'elle a prise.	(voiced/voiceless)
Il y en a douze de douces.	(voiced/voiceless)
Cet agneau a un anneau.	(palatalized/hard)
Votre laine est bien laide.	(nasal/oral)
Donne ton avis sur cet habit.	(constrictive/plosive)
Ces mouettes sont muettes.	(tongue: front/back)
On dîne sur la dune.	(lips: spread/rounded)
Elle est grosse et grasse.	(jaws: half-close/open)
Il presse le prince.	(oral/nasal)
Il meurt d'une belle mort.	(tongue: front/back)
Ce brin d'herbe est brun.	(lips: spread/rounded)
Nous, nous entendions/ Nous nous entendions.	(double duration on the first nous.)

Il n'a pas eu de thé hier/	(double duration on the
Il n'a pas eu de théière.	first thé.)
Gare à ta peau, Pierre/	(double duration on the
Gare à ta paupière.	first peau.)
Henri mangeait. (2-1)/	(First geait falling, second
Henry mangeait? (2-4)	geait rising high.)

c) In non-sense syllables: Hearing and repeating contrasts correctly in non-sense syllables represents a much higher level of discrimination than in known words. If included in a test, the student's ability will be judged more completely.

pa/ba	(voiceless/voiced)
ta/sa	(plosive/constrictive)
ba/va	(plosive/constrictive)
na/ña	(hard/palatalized)
ma/ba	(nasal/oral)
ʃa/ʒa	(voiceless/voiced)
ka/ta	(velar/dental)
li/ly	(lips: spread/rounded)
lɑ̃/lɔ̃	(lips: spread/rounded)
lɛ/lɛ̃	(velum: raised/lowered)
lø/lo	(tongue: front/back)
la/le	(jaws: open/half-close)

Grading: Only the contrasting feature should be considered; all else ignored. Suggested grading: 1 point for mediocre, 2 for fair, 3 for good.

A-2. Testing Pronunciation in Phonetic Features

In testing the articulatory and prosodic features that are not "distinctive," it is convenient to use sentences. Here are a few examples

of test sentences concentrating each on a single phonetic feature:

1. Phrase rhythm by equal force on all syllables: Les invités du vendredi sont sans responsabilités. (The syllables vi, ven, pon bi should not be stronger than average, and the syllables dre, sa, li weaker than average.)

2. No loss of vowel color: Il commande un parapluie énorme. (The vowels co and ra should not turn to [kə] and [rə].)

3. Logical stress by duration on last syllables: S'il pouvait partir il porterait plainte contre l'un des hôtes. (The syllables [tir], [plɛ̃t], [zot] should be twice as long as the others without being stronger.)

4. Insistance stress by intensity on first syllable beginning with a consonant: Quelle espèce d'imbécile de bavarder ainsi! (The syllables [be] and [ba] should be stronger and louder than the others.)

5. Flat syllabic intonation: Il fait chaud sur la chaussée. (The syllabic pitch on chaud and ..ssée should be more stable than in English.)

6. Oxytonic phrase intonation: Une reconstruction/des monuments historiques/ me paraissait/ indispensable. (The pitches 3, 4, 3, 1 should appear respectively on the syllables tion, riques, ssait, sable.)

7. The pharyngeal r [R]: Pourtant la craie rouge paraît meilleure. (Five positions of [R] are to be judged: preconsonantal, postconsonantal, initial, intervocalic, and final.)

8. The palatalized n [ñ]: Il faut que vous donniez un panier de châtaignes au gagnant. (The sounds of taignes and gnant must be heard as a single mid-tongue articulation, whereas the ni sounds of panier, donniez, can be heard as double articulations: tongue-tip followed by mid-tongue.)

9 Non-aspiration of plosives: Papa a quitté la capitale. (Especially the syllables pa, qui, tale must be heard without h friction between the explosion and the following vowel.)

10 Voicing of plosives: Gaby déguise bébé d'habits bleus. (Especially the syllables ga, dé, bé must be heard with vocal cord vibration preceding the plosive consonant.)

11. Non-dipthongization of vowels e and o: Il fait chaud sur la chaussée. (The vowels of chaud and ssee should be free from change in vowel color--not [ɔou], [ɛei], but [ooo], [eee].)

12 Vowel anticipation: La mule qu'il veut a bu un peu d'eau. (Failure to anticipate the vowel position will cause the addition of [j] sounds: [mjyl] for [myl], [vjø] for [vø], [bjy] for [by], [pjø] for [pø].)

13. Unstable e behavior: Je ne le lui demanderai pas. (Only those [ə] should remain that have two consonants preceding them; the others should fall: [ʒənləlɥidmãdre pa].)

14. Vowel quality by syllable structure (close vowel in open syllable; open vowel in closed syllable): Il fait mettre un peu de beurre dans un pot d'or. (Fait, peu, pot have close vowels [e], [ø], [o], since the syllables are open; mettre, beurre, or have open vowels [ɛ], [œ], [ɔ], since the syllables are closed.)

15. Open syllabication: Cet homme achète à sa femme une dentelle affreuse. (Here is a transcription of what should be heard: [sɛ tɔɔ ma ʃɛ ta sa faa my ndã tɛɛ la frøz].)

16. Non-anticipation of oral consonant after nasal vowel: Grimpe un peu sans tomber. (No addition of [m] sound before [p], [b] should be heard in grimpe, un peu, tomber.)

17. Non-anticipation of nasal consonant after the oral vowel: Jacques et Jeanne aident ceux qu'ils aiment. (One should hear no more nasal color in the [a], [ɛ] of Jeanne, aime, than on those of Jacques, aide.)

18. Release of final consonant before a pause: C'est sa nouvelle robe; elle la porte en ville; l'étoffe en est fine. (The [b] of robe, the [l] of ville, the [n] of fine should sound as if separated from the preceding vowel and beginning a new syllable.)

19. Clear l in implosive (syllable ending) position: Quelle belle dalle sur le sol. (The l that ends a syllable, as in quelle, belle, dalle, sol, is just as dental as the initial l of le.)

20. No break in vowel-to-vowel juncture: Henri a été en haut en toute hâte. (Only a reduction in intensity (no glottal stop) must be heard in the vowel sequences: ri to a, a to é, té to en, en to haut, haut to en, te to hâte.)

21. Short semi-vowels: Louis ira à Vienne et lui ramènera un piano. (Louis, Vienne, lui, pia will clearly sound as single syllables if the [w], [j], [ɥ] are short enough.

22. Tongue-back arching: Cette jeune veuve pleure encore. (The vowels [ɛ], [œ], [œ], [œ], [ɔ] will sound free of retroflexion (r color) if tongue is arched, (convex with tip down).)

23. Tongue-tip fronting t d n l s z ʃ ʒ: Tu nous laissais dîner sans cacher ta jalousie. (A "frontal resonance," objectively translated by higher pitch, can be heard for all those consonants if the tongue tip is down and closer to the front teeth than in English.)

24. Non-palatalization of tj, dj, sj: Aie pitié des passions diaboliques de ce monsieur. (No [ʃ] for [sj] must be heard in passion, monsieur. No [tʃ] for [tj], [dʒ] for [dj] in pitié, diable.)

Grading: Only one feature should be listened for throughout each sentence; the rest ignored. Suggested grading: 1 point for mediocre, 2 for fair, 3 for good.

B-1. Testing Fluency by Means of Morpho-syntactic Patterns

The Language Laboratory literature offers dozens of types of drill-patterns. The same types can be used as test-patterns. But whereas in building drill-patterns one does not generally deviate from a single grammatical feature, in building test-patterns one must, on the contrary, mix two or more grammatical features that are related.

To unburden my memory, I have reduced the dozens of drill types to six broad categories which I conveniently call: 1) Command, 2) Question, 3) Contradict, 4) Change, 5) Substitute, 6) Combine. In building patterns, I use the one or two categories that seem most appropriate to the grammatical features to be drilled or tested.

Here are a few examples of test-patterns in each of the six categories named above. Some need instructions; others, such as commands, do not. In drills it is best that a model "stimulus-response" be given at the start; in tests it is not.

1. COMMAND

Useful command-stimuli are those that begin with: Dites à X que..., Dites à X de..., Demandez à X si..., Dites que...

1-A Paul speaks. Follow his orders. (Dites à X que plus non-subjunctive may elicit responses in all persons: il, vous, je, etc. Tests may mix tenses or persons; drills should not. Dites à X que plus subjunctive elicits responses in the imperative.)

Dites à Jean que je voudrais partir.
[Jean, Paul voudrait partir.]
Dites à Jean qu'il devrait sortir.
[Jean, vous devriez sortir.]
Dites à Jean que vous venez de comprendre.
[Jean, je viens de comprendre.]
Dites à Jean que je vais lui parler.
[Jean, Paul va vous parler.]
Dites à Jean qu'il sorte tout de suite.
[Jean, sortez tout de suite.]

1-B (Dites à X de elicits responses in the imperative.)

Dites à Jean de ne pas insister.
[Jean, n'insistez pas.]
Dites à Jean de venir dès qu'il pourra.
[Jean, venez dès que vous pourrez.]
Dites à Jean de se dépêcher de finir.
[Jean, dépêchez-vous de finir.]

1-C (Demandez à X si elicits responses in the form of "yes or no" questions, which require a rising intonantion.)

Demandez à Jean s'il viendra.
[Jean, viendrez-vous? Est-ce que vous viendrez?]
Demandez à Henri s'il a compris.
[Henri, avez-vous compris? Est-ce que vous avez compris?]

Demandez à Charles s'il voulait venir.
[Charles, vouliez-vous venir? Est-ce que vous vouliez venir?]
Demandez à Jeanne si elle aimerait partir.
[Charles, aimeriez-vous partir? Est-ce que vous aimeriez partir?]

1-D Follow the orders and use a pronoun for the object. (The dites que stimuli are disposed so as to test certain verbs for the kind of objects they take. Preceding this test, the student has been drilled to use regarder, écouter, chercher, entendre, voir, attendre with a direct object; répondre, expliquer, demander with an indirect object. In this test, direct and indirect object stimuli are mixed, and personal pronouns are requested in the responses.)

Dites que vous regarderez le directeur.
[Je le regarderai.]
Dites que vous parlerez au directeur.
[Je lui parlerai.]
Dites que vous écouterez le directeur.
[Je l'écouterai.]
Dites que vous répondrez au directeur.
[Je lui répondrai.]
Dites que vous chercherez le directeur.
[Je le chercherai.]
Dites que vous expliquerez au directeur.
[Je lui expliquerai.]
Dites que vous entendrez le directeur.
[Je l'entendrai.]
Dites que vous demanderez au directeur.
[Je lui demanderai.]
Dites que vous attendrez le directeur.
[Je l'attendrai.]

2. Questions

Being the easiest, the question stimulus is naturally used to excess in testing. This should be avoided.

2-A In answering the questions, use a pronoun for the object. (The question-stimulus is used to test the distinction between two sorts of indirect object pronouns: personal lui and non-personal y.)

Est-ce qu'il a répondu à vos lettres?
[Non, il n'y a pas répondu.]

Est-ce qu'il a répondu à sa mère?
[Non, il ne lui a pas répondu.]
Est-ce que tu as manqué à tes devoirs?
[Non, je n'y ai pas manqué.]
Est-ce que tu as manqué à tes parents?
[Non, je ne leur ai pas manqué]
Est-ce qu'elle obéit à son mari?
[Non, elle ne lui obéit pas.]
Est-ce qu'elle obéit à ses ordres?
[Non, elle n'y obéit pas.]

2-B In answering the questions, use a pronoun for the object. (The same distinction as in 2-A but applying to reflexive verbs.)

Est-ce qu'il s'intéresse aux arts?
[Oui, il s'y intéresse.]
Est-ce qu'il s'intéresse à ce poète?
[Oui, il s'intéresse à lui.]
Est-ce qu'il s'impose à ses hôtes?
[Oui, il s'impose à eux.]
Est-ce qu'il s'impose à l'opinion?
[Oui, il s'y impose.]
Est-ce qu'il se rend à l'évidence?
[Oui, il s'y rend.]
Est-ce qu'il se rend aux autorités?
[Oui, il se rend à elles.]

2-C In answering the questions, use pronouns for both objects. (Tests the distinction between le, la, les (specifying) and en (non-specifying) as direct objects.)

Avez-vous demandé les livres à Jean?
[Oui, je les lui ai demandés.]
Avez-vous demandé des livres à Jean?
[Oui, je lui en ai demandé.]
Avez-vous demandé un livre à Jean?
[Oui, je lui en ai demandé un.]
Avez-vous demandé un beau livre à Jean?
[Oui, je lui en ai demandé un beau.]

2-D Answer, starting with: Oui, moi aussi... (Tests the use of first singular in answering to second plural in a pattern that replaces the six-person conjugation advantageously.)

Jean va au collège.
Et vous, est-ce que vous y allez?
[Oui, moi aussi j'y vais.]
Jean a passé ses examens.
Et vous, est-ce que vous les avez passés?
[Oui, moi aussi je les ai passés.]

Jean voudrait qu'on se taise.
Et vous, est-ce que vous le voudriez?
[Oui, moi aussi je le voudrais.]

3. CONTRADICT

3-A Contradict, using: Mais non, je... (Tests the replacement of the partitive by de in the negative.)

Vous avez de la patience.
[Mais non, je n'ai pas de patience.]
Vous avez du courage.
[Mais non, je n'ai pas de courage.
Vous avez de l'esprit.
[Mais non, je n'ai pas d'esprit.]
Vous avez des objections.
[Mais non, je n'ai pas d'objections.]

3-B Contradict, telling the person not to...., with non and a negative imperative. (Tests the response to an affirmative statement by a negative imperative.)

Je voudrais les lui acheter.
[Non, ne les lui achetez pas.]
Il faudrait vous les apporter.
[Non, ne me les apportez pas.]
On devrait leur en montrer.
[Non, ne leur en montrez pas.]

3-C Contradict, using: Mais si, je.... (Tests the response to a negative statement by an affirmative one.)

Il me semble que vous n'êtes pas satisfait.
[Mais si, je suis satisfait.]
Il me semble que vous n'en avez pas assez.
[Mais si, j'en ai assez.]
Il me semble que ce n'est pas important.
[Mais si, c'est important.]
Il me semble que vous n'étiez pas à l'heure.
[Mais si, j'étais à l'heure.]

Il me semble que vous n'avez pas compris.
[Mais si, j'ai compris.]

3-D Contradict, using: Moi, je... (Tests the distinction between verbs that are followed by the subjunctive when negative, and verbs that are not.)

Je suis sûr qu'il viendra.
[Moi, je ne suis pas sûr qu'il vienne.]
Je dis qu'il partira.
[Moi, je ne dis pas qu'il partira.]
Il me semble qu'il est d'accord.
[Moi, il ne me semble pas qu'il soit d'accord.]
Je sais qu'il reviendra.
[Moi, je ne sais pas s'il reviendra.]
Je crois qu'il comprend.
[Moi, je ne crois pas qu'il comprenne.]

3-E Contradict, using: Si, si, je... (Tests the distinction between verbs that are followed by the subjunctive when affirmative and verbs that are not.)

Mais vous ne comtez pas qu'il soit élu.
[Si, si, je compte qu'il sera élu.]
Mais vous n'êtes pas heureux qu'il revienne.
[Si, si, je suis heureux qu'il revienne.]
Mais vous ne croyez pas qu'il comprenne.
[Si, si, je crois qu'il comprend, comprendra.]
Mais vous ne regrettez pas qu'il parte.
[Si, si, je regrette qu'il parte.]
Mais vous n'êtes pas sûr qu'il vienne.]
[Si, si, je suis sûr qu'il vient, viendra.]
Mais vous ne désirez pas qu'il sorte.
[Si, si, je désire qu'il sorte.]

4. CHANGE

The first three types of test-stimuli--command, question, contradict--use natural conversation processes. The last three are more artificial, but they make it possible to leave no grammatical stone unturned.

4-A Change to a negative statement. (Tests the negative form with various tenses.)

Les enfants vont à l'école.
[Les enfants ne vont pas à l'école.]
Les enfants vont manger à l'école.
[Les enfants ne vont pas manger à l'école.]
Les enfants sont allés à l'école.
[Les enfants ne sont pas allés à l'école.]
Les enfants ont mangé à l'école.
[Les enfants n'ont pas mangé à l'école.]
Les enfants mangeront à l'école.
[Les enfants ne mangeront pas à l'école.]

4-B Change to a negative command. (Tests the negative imperative with one object.)

Emmenez-les.
[Ne les emmenez pas.]
Apportez-en.
[N'en apportez pas.]
Allez-y.
[N'y allez pas.]
Regardez-nous.
[Ne nous regardez pas.]
Parlez-lui.
[Ne lui parlez pas.]

4-C Change to a negative command. (Tests the negative imperative with two subjects.)

Donnez-le-lui.
[Ne le lui donnez pas.]
Achetez-le-nous.
[Ne nous l'achetez pas.]
Demandez-lui-en.
[Ne lui en demandez pas.]
Portez-les-y.
[Ne les y portez pas.]
Offrez-les-nous.
[Ne nous les offrez pas.]

4-D Change from a negative to a positive statement, using the appropriate partitives. (Tests the distinction between singular partitive and plural partitive.)

Je n'ai pas de pain.
[J'ai du pain.]
Je n'ai pas de livres.
[J'ai des livres.]
Je n'ai pas de patience.
[J'ai de la patience.]
Je n'ai pas d'amis.
[J'ai des amis.]
Je n'ai pas d'argent.
[J'ai de l'argent.]

4-E Change from informal questions in est-ce que to formal questions without est-ce que. (Tests the dependence, in formal interrogative patterns, on the interrogative adverb and on the object.)

Est-ce que les gens arrivent?
[Les gens arrivent-ils?]
Est-ce que les gens sont arrivés?
[Les gens sont-ils arrivés?]
Quand est-ce que les gens arrivent?
[Quand arrivent les gens?]
Quand est-ce que les gens arrivent de France?
[Quand les gens arrivent-ils de France?]
Pourquoi est-ce que les gens arrivent?
[Pourquoi les gens arrivent-ils?]
Où est-ce que les gens mangent?
[Où mangent les gens?]
Où est-ce que les gens mangent du pain?
[Où les gens mangent-ils du pain?]

4-F Change the principal phrase to a past tense and the subordinate accordingly. (Tests the correct tense sequences when using certain past tenses.)

Il dit qu'il rentrera.
[Il a dit qu'il rentrerait.]
Il dit qu'il rentre.
[Il a dit qu'il rentrait.]
Il dit qu'il est rentré.
[Il a dit qu'il était rentré.]
Il dit qu'il sera rentré.
[Il a dit qu'il serait rentré.]
Si je vais en ville, il viendra avec moi.
[Si j'allais en ville, il viendrait avec moi.]

Quand je vais en ville, il vient avec moi.
[Quand j'allais en ville, il venait avec moi.]
Il travaille depuis deux ans.
[Il travaillait depuis deux ans.]
Il y a deux ans qu'il travaille.
[Il y avait deux ans qu'il travaillait.]

4-G Change to the negative, preserving the same meaning as in the positive statement. (Tests correct tense sequences when using certain tenses in the negative.)

Il travaille depuis un mois.
[Il n'a pas travaillé depuis un mois.]
Il travaillait depuis un mois quand je l'ai vu.
[Il n'avait pas travaillé depuis un mois quand je l'ai vu.]
Voilà un mois qu'il travaille.
[Voilà un mois qu'il n'a pas travaillé.]
Il y avait un mois qu'il travaillait, la dernière fois que je l'ai vu.
[Il y avait un mois qu'il n'avait pas travaillé la dernière fois que je l'ai vu.]

5. SUBSTITUTE

Substitution is the most useful of drill techniques. But it can also be used for testing, especially when a correlated change is involved as in the examples below.

5-A Substitute and make the necessary change. (Tests the use of possessive adjectives.)

C'est mon père.	(la mère)
C'est ma mère.	(le frère)
C'est mon frère.	(l'armoire)
C'est mon armoire.	(la brosse)
C'est ma brosse.	(l'histoire)
C'est mon histoire.	(le livre)
C'est mon livre.	(l'appartement)
C'est mon appartement.	

5-B (Tests the use of compound articles.)

Il mange à Lyon.	(le restaurant)
Il mange au restaurant.	(la maison)
Il mange à la maison.	(les environs)

Il mange aux environs.	(l'estaminet)
Il mange à l'estaminet.	(le café)
Il mange au café.	(de tout)
Il mange de tout.	(il se plaint)
Il se plaint de tout.	(la soupe)
Il se plaint de la soupe.	(le pain)
Il se plaint du pain.	(les hors-d'oeuvre)
Il se plaint des hors-d'oeuvre.	(l'eau)
Il se plaint de l'eau.	(le café)
Il se plaint du café.	

5-C (Tests the use of the subjunctive after certain verbs.)

Je crois qu'il sera là.	(désirer)
Je désire qu'il soit là.	(savoir)
Je sais qu'il sera là.	(suggérer)
Je suggère qu'il soit là.	(regretter)
Je regrette qu'il soit là.	(prévoir)
Je prévois qu'il sera là.	(espérer)
Je espère qu'il sera là.	(demander)
Je demande qu'il soit là.	

5-D (Tests the use of subjunctive forms.)

J'aimerais qu'il entre.	(venir)
J'aimerais qu'il vienne.	(partir)
J'aimerais qu'il parte.	(comprendre)
J'aimerais qu'il comprenne.	(sortir)
J'aimerais qu'il sorte.	(répondre)
J'aimerais qu'il réponde.	(pouvoir)
J'aimerais qu'il puisse.	(vouloir)
J'aimerais qu'il veuille.	(savoir)
J'aimerais qu'il sache.	

5-E Substitute pronouns for both noun objects. (Tests the distinction between le, la, les (specifying) and en (non-specifying) as direct objects combined with an indirect object.)

Il a demandé ces livres à Jean.
[Il les lui a demandés.]
Il a demandé des livres à Jean.
[Il lui en a demandé.]
Il a demandé un livre à Jean.
[Il lui en a demandé un.]
Il a demandé de beaux livres à Jean.
[Il lui en a demandé de beaux.]

6. COMBINE

This technique should be used only as a last recourse. It seems that some patterns can be taught and tested orally in no other way than by "combine-stimuli"--such are the relative pronouns.

6-A Combine the two elements, first into a qui pattern, then into a a que pattern. (Tests the distinction between subject and object.)

J'ai acheté un livre. Il est intéressant.
[J'ai acheté un livre qui est intéressant.]
[Le livre que j'ai acheté est intéressant.]
Il attend une jeune fille. C'est sa soeur.
[Il attend une jeune fille qui est sa soeur.]
[La jeune fille qu'il attend est sa soeur.]
Nous avons une table. Elle est grande.
[Nous avons une table qui est grande.]
[La table que nous avons est grande.]

6-B Combine into principal plus a subordinate. (Tests the use of the subjunctive or non-subjunctive after certain verbs.)

Je dis + il est là.
[Je dis qu'il est là.]
Je désire + il vient.
[Je désire qu'il vienne.]
Je crois + il sortira.
[Je crois qu'il sortira.]
Je demande + il sortira.
[Je demande qu'il sorte.]
J'exige + il finira.
[J'exige qu'il finisse.]
Je prévois + il finira.
[Je prévois qu'il finira.]

6-C Combine the two elements given. (Tests the place of adjectives and the distinction between des and de.)

J'ai des livres + intéressants
[J'ai des livres intéressants.]
J'ai des livres + jolis
[J'ai des jolis livres.]
J'ai des livres + petits
[J'ai de petits livres.]

J'ai des livres + amusants.
[J'ai des livres amusants.]

6-D Combine into a subordinate that precedes a principal in the past. (Tests certain words as pattern directors.)

Dès que + il a mangé et on est parti.
[Dès qu'il a eu mangé, on est parti.]
Comme + il a bien parlé et on l'a applaudi.
[Comme il avait bien parlé, on l'a applaudi.]
Bien que + il a changé et on l'a reconnu.
[Bien qu'il ait changé, on l'a reconnu.]
Si + il a insisté et on a accepté.
[S'il avait insisté, on aurait accepté.]
Quand + il a fini et on a commencé.
[Quand il a eu fini, on a commencé.]

6-E Combine into a si subordinate plus a principal in the conditional. (Tests the use of imperfect after si in a conditional sentence.)

Avoir de l'argent + acheter une maison
[Si j'avais de l'argent, j'achèterais une maison.]
Acheter une maison + inviter des amis
[Si j'achetais une maison, j'inviterais des amis.]
Inviter des amis + perdre son temps
[Si j'invitais des amis, je perdrais mon temps.]
Perdre son temps + être malheureux
[Si je perdais mon temps, je serais malheureux.]
Etre malheureux + se mettre à boire
[Si j'étais malheureux, je me mettrais à boire.]
Se mettre à boire + tomber malade
[Si je me mettais à boire, je tomberais malade.]
Tomber malade + consulter un docteur
[Si je tombais malade, je consulterais un docteur.]

B-2. Testing Fluency by Means of Vocabulary Patterns or Frames

a) By use of pictures.

Directions applying to pictures can be either general or specific.

General directions will simply ask the student to describe the

picture, the objects of the picture, the action of the picture, in the present, in the past, etc.

Specific directions will point separately to various portions of a picture, will ask what would happen if certain conditions were changed in the picture, etc. etc.

In general, however, the student's oral response to a picture does not lend itself well to objective grading. Pictures are better suited to testing comprehension.

b) Without pictures.

The student can be asked specific questions such as:

Avec quoi mange-t-on sa soupe?
Dans quoi mange-t-on sa soupe?
Dans quoi sert-on la soupe?
Avec quoi sert-on la soupe?

He can also be asked to fit (substitute) as many words as possible in a given pattern:

Il demande à Jean de venir.
Il propose à Jean de venir.
Il dit à Jean de venir.
Il écrit à Jean de venir.
Il répond à Jean de venir.
Il permet à Jean de venir.

Some of the research reported herein was performed pursuant to a contract with the U. S. Office of Education, Department of Health, Education, and Welfare.

THE PREPARATION OF MATERIALS FOR THE LANGUAGE LABORATORY

Pierre J. Capretz

THE NEED FOR MATERIALS

There are now thousands of language laboratories throughout the country and new ones are being installed every day. There are few college language departments that do not pride themselves on having some kind of language laboratory: a victory has been won but it is a dangerous one for we are not prepared to take advantage of the ground we have gained and to exploit fully our success.

We have heard that some expensively equipped laboratories have fallen into disuse and that many of them are improperly used for lack of competent staff and, above all, for lack of suitable materials.

And in fact there are few such materials available today. The bulk of textbooks now on the market were designed for the traditional approach to language teaching, at a time when laboratories were not known, or written by authors who lacked sufficient experience with laboratory techniques. The majority of recently published texts, especially elementary texts, are accompanied by full sets of recordings and claim to be made for "laboratory use", but such claims cannot be taken at face value. In fact a great number of these texts are old ones which have been more or less hastily and superficially "revamped" and the recordings that accompany them are in most cases nothing but a mere "taping" of the narratives or dialogues, vocabulary lists and traditional exercises, showing more concern with pronunciation practice than with communication skills. Such recordings will prove more valuable to conscientious teachers who will use them to check their own pronunciation before meeting their class, than to the students

themselves.

Of course, the few institutions which have been experimenting with laboratory techniques for the past ten or twelve years have developed, over that period of time, course materials especially geared to the use of a laboratory, but these materials are hardly available to other institutions except through occasional courteous loans. Their general publication is hindered by several factors: the authors of some of them may think that, even after years or so of constant trial and error they have not yet reached a sufficiently perfected form to justify public release. Even if the materials have reached the desirable point of perfection they are hardly "publishable" precisely because they have been especially made for laboratory use. This means that they consist mostly of tape recordings with no, or relatively little, printed material except for the teacher's use. Now, textbook publishers are equipped and accustomed to sell printed words, not spoken ones. In as much as they have recently made an effort to publish tape recordings they have done so only because it is difficult today to market a language textbook which is not "accompanied" by some kind of recordings. They have had to assume this supplementary expense without any hope of making a profit on the sale or rental of the recordings themselves. Such recordings are fairly expensive to produce, and though they can be copyrighted, are too easy to duplicate for the copyright to be strictly enforced. Finally, only one set is needed for one school over a period of several years, while, during the same time, several hundreds of textbooks could be sold. At present the tape recordings represent for the publishers an expensive and therefore unwelcome adjunct to the traditional textbooks, and it will probably take some time before commercial publishers are able to market good recorded language course materials with no conventional textbooks attached.

In the present dearth of good course materials especially designed for use in the language laboratory, hundreds of language departments are striving to produce their own materials. In a way, this is a regrettable situation

since many of the teachers involved have neither the time nor the facilities required for such an undertaking. It is not enough to be an excellent teacher and to know how to operate a tape recorder for one to be able to produce a good recording for effective laboratory use.

CHARACTERISTICS OF GOOD MATERIALS FOR USE IN THE LANGUAGE LABORATORY

Perfection

One of the most obvious advantages of the language laboratory is that it provides endless repetition of the same item which can be heard by each student as often as necessary and by as many students as are enrolled in the course, not only in one particular year, but also in subsequent years. Any slight error or imperfection, instead of being vaguely noticed, once, by the students of the class (or rather, by those among them who happen to be listening at the time) will affect all present and future students and affect them repeatedly. Besides, the materials recorded on tape enjoy somewhat the same prestige as the printed page. "That's what they said on the tape." is often given by students as an argument just as weighty as "It's in the book." The impact of each fragment of the materials recorded for use in the laboratory will be multiplied an incalculable number of times. It follows that such recorded materials should be perfect, or as nearly perfect as the best human competence, aided by the best machines can make them.

Since the main advantage of the laboratory is that it makes possible the exposure of the student to massive doses of the spoken foreign language through the process of repetition, the materials to be used in the lab must be so designed as to encourage students to take advantage of this possibility. This means that the materials must be as interesting and pleasant to listen to as possible; therefore a high technical quality of recording and carefully organized contents are necessary.

Technical quality of recording

The technical quality of sound reproduction encountered in most laboratory installations leaves much to be desired. This is due to the fact that the manufacturers prefer to sell mediocre equipment for a high price than good equipment for the same or a slightly higher price. For this reason, unfortunately, several laboratory equipment firms have helped spread the erroneous idea that, since language laboratory equipment is used only to reproduce the human voice, a limited fidelity is sufficient for the purpose. This reasoning, sometimes backed by the example of the telephone which succeeds in transmitting understandable messages through a very poor frequency range, fails to recognize that it is one thing to comprehend a message in a language that one already knows, and quite another thing to perceive the same in an imperfectly known language. Obviously a much higher fidelity is necessary in the second case. Furthermore, recent studies have shown that the differences between some sounds of English and of French, for example, can be distinguished only if very high frequencies are present (on the order of 11,500 cps). On that score the flat frequency response of 40 to 8,000 cps often proposed as desirable for language laboratory equipment is quite insufficient.

Even if high quality of the recordings were not thus justified by the necessity of reproducing all the sounds of the target language in such a way as they might be clearly distinguished from similar English sounds, high fidelity of reproduction should be insisted upon as a means of making the recording more appealing and less tiring to listen to. It is enough to listen to an old cranky phonograph after one of the latest, expensive "hi-fi" record player systems to realize how much more one can "take" of the second.

It goes without saying that the best recording will not sound good if it is played on poor laboratory equipment, but it is just as obvious that a mediocre recording will not sound any better if it is played on poor equipment... and not even if it is played on good equipment.

In conclusion, the recordings for the language laboratory should be made under the best physical conditions, in a good, sound-proof, but not too "dead" studio, on the best recording equipment and, if possible, with the help of a competent technician.

The too common practice of cutting recordings on the same mediocre equipment which is used in the laboratory should be discouraged. (If the playback system is mediocre the recording system is usually even worse.)

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Integration of laboratory and classroom work

The materials used in the language laboratory must be closely related to what is done in class. The time spent in the laboratory is needed to reinforce whatever learning has taken place in the classroom, and students must realize that whatever they are doing in the laboratory has a direct bearing on class work and will enable them to perform well in class. This can be achieved only if laboratory and class materials have been conceived together, at the same time, as parts of one carefully planned course. The structures and vocabulary studied must be presented many times in as many and various ways as possible until they are completely mastered. This process must be begun in class and continued in the laboratory. Almost all of the numerous techniques for presenting materials in the laboratory can be used with profit if the structures and vocabulary presented are precisely those under study in class at that time or "re-entries."

At the elementary level the tapes should present the basic text, dialogue or narrative of each lesson, recorded at normal speed and with pauses and repetitions: adaptationsof the same dialogues or narratives; directed dialogues; comprehension and speaking drills; pattern drills; questions and answers; all of them bearing on the same linguistic problems. At a more advanced level, dictation drills should be added and, when reading assignments are given, each assignment should be recorded in as clear and dramatic a way as pos-

sible so that the students may hear the new text before they read it, and may be helped in understanding it by all the clues given by a good reading (intonations, breaking up of the sentences). It is very important that the pattern drills presented on the tapes be based on the text studied in class. Certainly, they must bear on patterns encountered in those texts, but the vocabulary items used to make up various examples of the same pattern must also be taken from currently or recently studied texts; and each item in the pattern drills must refer to the "situation" provided by the texts. In this way the difficulty most often encountered in pattern drills is overcome: each item instead of being an isolated, meaningless, artificial utterance becomes meaningful by reference to a text known to the students.

Nature of the linguistic material

With the audio-lingual approach the linguistic material taught must evidently belong to the spoken language and not to the written style. However, though the audio-lingual approach is now almost universally accepted, most of the audio-lingual materials (or so called audio-lingual materials) produced up to now use a language which is too obviously influenced by the written style propagated by traditional courses. Whence those disconcerting phrases that pop up all of a sudden in the middle of a dialogue or of a pattern drill. They may be perfectly correct, in keeping with all the rules of the best grammar books, and might even be found perhaps in some literary text of the nineteenth century... but no one would ever say them today under normal circumstances. There is much work to be done if one is to weed such discrepancies out of some of the best audio-lingual teaching materials available today.

Among the several levels of spoken language, that used in daily life, under normal circumstances, by a cultured native should be preferred for an elementary course. In more advanced courses lower and higher levels of speech may be gradually introduced at least for comprehension.

ACTIVE PARTICIPATION OF STUDENTS

Whatever the technique used, the materials should be so designed as to demand of the students some kind of active participation. Being exposed to the spoken language for a long time may induce a certain amount of learning even if the student is merely hearing without listening actively, but it is obvious that more will be learned if the student applies his mind to it. Means have then to be found to force the student to listen actively and to perform in some way.

Oral responses. The most obvious way is to ask the student to respond orally either by merely repeating what he hears or by introducing some change in the stimulus. In designing this type of exercise, three rules should be kept in mind:

a) each response of the student should be followed by a model response so that the last element in the series be the model answer and not the student's performance: the model should speak last.

b) such drills must remain drills and not degenerate into quizzes; the purpose of a drill being not to <u>test</u> the student or to challenge his intellectual ability but to <u>teach</u> him. The stimuli must not become riddles and the student must be able to find the correct response without having to "rack his brain" for it. The student response must be fairly obvious to him and completely controlled.

c) a fairly rapid rhythm has to be maintained throughout the exercises. A lively rhythm will keep the student on his toes, will challenge him and prevent boredom. Furthermore, the purpose of these drills being to build up verbal automatisms, the student must respond in an automatic way without preparing his answer through an elaborate discursive process, and, finally, the student must get in the habit of speaking the foreign language at normal speed. The pauses have then to be carefully measured to give the student just enough time to enunciate the utterance at the same speed as it was spoken by the model voice, plus a certain "reaction time," which will vary according to the kind of students for whom the recordings are prepared, but which should always be kept to a minimum.

Graphic response. We mean by this some kind of check mark which the student places on a specially prepared sheet, for example, to answer

yes or no to an aural question or true or false to an aural statement, or to identify an utterance with one of the lines of writing which he finds on his sheet. This type of response is particularly well adapted to auditory discrimination drills and listening comprehension. It must be recalled here again that this technique is not used as a quiz but as part of a drill; the re-confirming and re-inforcing "solution" is given as soon as the student has had time to perform.

Written response. As soon as students have begun writing in the foreign language, written responses to aural stimuli are an excellent way of fixing their attention. Of course, such written responses should take only a small proportion of the total time spent in the laboratory, the preponderance being left to aural-oral work. Furthermore, written responses should be used only in the later part of each recording when materials being studied have been thoroughly drilled orally. These written responses may take various forms such as regular dictations or spot dictations where a partial text is given on a mimeographed sheet with blanks which the student has to fill in as he hears the text spoken. This spot dictation technique can be used in order to call the student's attention to important points in an aural comprehension drill: the key words (those which we have to catch in order to get the meaning of the message) are left blank; the others (which can be supplied automatically by our mind if they have not been actually perceived) are given on the mimeographed sheet. This technique can obviously be used to call the student's attention to points of spelling, but also to any structural or phonological item under study at the time. Let us suppose that a recording for an intermediate course in French has drilled the phrase avoir beau plus verb. At the conclusion of the tape lesson the students will be asked to take a mimeographed sheet on which appears a series of numbered sentences from which one or a number of words has been deleted. The sentences are heard via the tape and the students are asked to write down the missing word or words which may be at first the proper form of the verb avoir. Then, in a second group of sentences, the infinitive verb that follows avoir beau, and in a third group the

negative statement which always follows the phrase avoir beau plus infinitive. In all cases a key must be provided (on the back of the sheet or printed upside down at the bottom) for immediate checking.

Mechanical response. This type of response, which could have been discussed first in as much as it is applicable even to the pre-writing and pre-reading stages of language instruction, is mentioned last because it has been, thus far, much less used than the others. It requires special equipment usually not found in language laboratories at present and brings us into the field of the Teaching Machine which may be considered as the wished-for or dreaded ultimate avatar of the language laboratory. In this technique the student responds to aural stimuli by pressing one or more buttons which actuate an auditory or visual signal and a counter to keep track of the number of correct responses. Thus, immediate feed-back or response confirmation is possible. But these techniques have as yet been the object of too little experimentation to be considered here.

USE OF "AUTHENTIC" MATERIALS

If one of the great advantages of the language laboratory is that it allows a greater exposure of the student to the spoken language than can be achieved in the classroom, a no less important one is that it enables the student to escape the limits of the classroom and to have access not to "classroom-French" or German or Spanish, but to real French, German or Spanish--to the language as it is spoken in real situations, by natives, with all the natural intonations, rhythm and "punch"; not as it is decorticated, emasculated and otherwise adulterated in the typical classroom situation.

Such "authentic" language must be preferred to its professorial imitation, not only for authenticity's sake but because an "authentic" utterance has incomparably more relief than a professorial one. It has, so to speak, an added dimension; it is more meaningful to the student, it has a greater impact on him; it is not boring and, for these reasons, it is better learned. Curse words, per-

haps, are the most readily learned elements of any language precisely because they represent the quintessence of the "authentic" utterance.

Ideal language laboratory materials would be made up exclusively of authentic materials. Good language laboratory materials certainly must include a high proportion of "authentic" speech. This can be taped from different sources: conversations recorded in the foreign country preferably without the knowledge of the speakers; in private home; stores; restaurants; streets, etc. Recordings of good modern plays; film sound-tracks; radio programs; and commercial recordings such as "sound archives", "sound magazines," etc.

Of course, such documents cannot be used "as they come" (except perhaps for listening comprehension drills and tests at the higher level), but some elements can be carefully selected and edited for student consumption. It is indeed a time consuming and costly proposition but worth the effort.

STUDIO RECORDINGS

That part of the language laboratory materials which has to be recorded in the studio should try to duplicate "authentic" speech as closely as possible.

Speakers. This means that only "native" speakers should be used. (By "native" we do not mean necessarily speakers who happen to have been born within the boundaries of the country whose language is concerned, but speakers whose command of the language and whose accent is such that they can be mistaken for natives by the natives themselves.) If it were necessary to defend this obvious principle, one might remark that we do not aim at teaching our students any kind of American-French, or American-German or American-Spanish (that is, North American-Spanish), but real French-French , real German-German, etc. Therefore, even the fact that probably few of our students will ever achieve anything else but some kind of "American-French" is no excuse for offering them American-French as a model!

If it is impossible to offer to all students a one hundred per cent authentic model to imitate in the classroom, it can be done in the laboratory and should be done. Nor will just any "native" do as a "voicer" of good language laboratory tapes. Speakers must have good, pleasant voices; clear and distinct enunciations; forceful delivery and good dramatic talent since they must not so much "read" but act their parts. They must impart color to every item of any pattern drill and render it an "authentic" utterance produced in a real situation. They must be able to do their job without being bored, or, at least, give the impression that they are not bored but enjoying every minute of it.

Every language is spoken by "natives" with a great variety of accents all equally "authentic." As far as aural comprehension is concerned it will be good to offer the students a fair sampling of these various accents, but it will be preferable to choose one of them for studied imitation. Whereas it is generally agreed to choose, in French, a "cultural Parisian" accent, for Spanish the choice is a much more difficult one between Castilian or one of the South American varieties.

A good recording should offer several voices, at least two, preferably male and female, to accustom the student to different ways of speaking the language and to make it more realistic and lively.

Editing. The necessity of editing is obvious when "authentic" materials are used since such materials can practically never be used in their original state. The usable fragments have to be taken out of the original recording and re-combined in a proper sequence; pauses and repetitions have to be introduced, etc., etc. Editing is also necessary with studio recordings to eliminate all flaws, but also to introduce pauses and repetitions. Pauses and repetitions can be recorded in the studio, but this technique, while saving time, is not really satisfactory. The necessity of leaving pauses makes it impossible for one

to speak naturally, particularly whenever utterances have to be broken up into segments. A speaker asked to repeat an utterance several times will almost inevitably be unable to give two identical versions of it, the intonation pattern being altered each time. These drawbacks will be eliminated if the text is recorded once in a natural way and then manipulated to introduce pauses and repetitions through editing. This procedure is particularly important for dictation drills and tests, especially if they are considered as drills and tests in listening comprehension as much as in spelling. Nothing but the most unnatural kind of speech can be expected of one who "dictates," breaking up sentences, leaving pauses... and giving punctuation!

For similar reasons, it is very difficult to make pauses of the right length when one has to make them in the studio, during the original recording. Pauses, however, can be measured more accurately when they are introduced through editing. Editing can be done with scissors and splicer or by copying from one machine to another. The best results are achieved with the first method if the recordings are made at a sufficient speed (7.5 or 15 ips) and if "recorded silence" is used to make up the pauses, but it is extremely time-consuming. The second method requires two well matched machines of very high fidelity in order to minimize the inevitable loss of quality which takes place whenever a recording is duplicated. One of the two machines at least must provide instantaneous stop and start of tape travel.

We are now studying a machine into which a "natural" recording, without pauses, will be fed and which will itself introduce, in the correct places, pauses of a predetermined length (any multiple of the original utterance or the same length as the utterance plus a constant "reaction time"). We hope the same machine eventually will be able to introduce any number of repetitions of any utterance in the original recording.

CONCLUSION

Few good materials are now available for use in language laboratories and the need for such materials is felt more and more acutely every day , as more and more laboratories are being installed throughout the country.

Really suitable materials cannot be prepared overnight and by anybody. Their construction requires expertise in language laboratory methods and techniques; familiarity with the recent contributions of pure and applied linguistics and not only a thorough working knowledge of the target language but also a "feel" for it which will avoid use of any "unnatural" utterances. The recording and editing require a perfected complex of equipment and a variety of skills and talents hardly to be expected in a single individual. For these reasons it is practically impossible for individual teachers with limited time and facilities to produce good laboratory materials.

Commercial publishers <u>can</u> be expected to provide such good materials for use in a language laboratory but only if they completely change their traditional practices and become organized to sell tape recordings supplemented by work sheets (to be distributed to the students at the proper time) and detailed teachers' guides, rather than the traditional textbooks accompanied by some associated recordings. These materials cannot be adaptations of traditional textbooks but must be conceived, from the beginning, as audio-lingual materials to be used in conjunction with a language laboratory, and constructed by a team of experienced specialists. In addition, they should not be released before having been tested and evaluated for at least two years in a number of different institutions. Commissioning the construction, testing and perfecting of such materials is such a costly undertaking that no commercial publisher may want to risk it. And it might not be very wise to risk it either, for it is not absolutely certain that satisfactory results could be achieved!

Teachers who have been preparing language laboratory materials for the past ten years or so have developed a certain know-how, and some of them have become kinds of artists in special fields. Also, numerous precepts have been doctorally formulated deciding "once and for all" how good laboratory materials should be constructed. But in spite of this, it is our belief that a wide field remains open to experimentation since most of our ideas on how to organize a good recording rest on theoretical reasoning, limited experience or simply personal prejudice which, for lack of better sources of information, have been exalted to the status of revealed Truth.

Objective experimentation is badly needed and this cannot be carried out by single individuals working within the limits of one institution, but only if organized on a national scale in a purely scientific spirit. It would seem that good materials can be effectively prepared only by non-commercial research teams subsidized by the Government--such as the Modern Language Materials Center--or by institutions of higher learning working together with the help of generous grants.

Meanwhile, our profession is faced with an extremely serious situation. In the absence of adequate materials, a mass of unsatisfactory materials is being produced and used, which may have disastrous consequences. In order to solve partially this problem it might be advisable to create a national Modern Language Recording Center where a team of experts using the best equipment available, would produce, at cost, good recordings for individual teachers, and, eventually, for commercial publishers.

RECOMMENDATIONS ON THE LEARNINGS WHICH SHOULD OCCUR IN THE LANGUAGE LAB AND IN THE CLASSROOM

G. Mathieu

Integration with the classroom.

It is generally agreed today that whenever electromechanical aids are used, the learning in the lab should be "completely integrated" with classroom instruction. Under ideal conditions the activities in the language lab would become an integral part of the language learning process in the same way as the sciences, for example, consider their labs an integral part of their curriculum. The optimum situation would be the "clab", that is a combined classroom-laboratory where electromechanical facilities would be available at all times and at any given moment.

The completely integrated laboratory-classroom program is a goal for which the profession should strive with deliberate speed--but to advocate today the establishing of such a program for the foreseeable future means to take an unrealistic view which can do more harm than good. Under present circumstances there are very few schools and colleges in which laboratory facilities are available to permit a completely integrated program and, where the facilities are available, the program is probably lacking. Moreover, there will be many a situation where both facilities and program may be available but where the faculty would think it unwise to introduce a completely integrated audio-lingual program at this time.

We believe that a more realistic view consists in striving for a program which, while correlating the lab and classroom learning as closely as possible, assigns to each the function in the learning process which it can further most effectively and efficiently.

Once we accept that the division of labor between classroom and lab is to be determined by what each can do most effectively, our task is greatly

facilitated. For all we need to do now is to inquire into the inherent advantages that each learning locale provides.

There is, for example, a prevalent misconception that "the kinds of drill activities which are carried on in the laboratory should be the same kinds as those done in the classroom," or that "the same response as in the laboratory is possible, of course, through choral drill." The misconception lies not in the fact that the same drill activity is not possible in the classroom but in believing that it is a worthwhile activity. The truth of the matter is that when laboratory facilities are available, pattern drills in the classroom are a waste of time and energy and should be carried out only in the lab.[1]

Today we know that while "listening-and-repeating" is an important step in language learning, the method of "stimulus-and-response" is a far more effective one. In the former the learner hears a model and imitates it; in the latter he hears a stimulus and responds, that is he manipulates ("tongulates" would be le mot juste) the structures and in doing so re-creates the language on his own. "Listen-and-repeat" is learning by parrotting; "stimulus-and-response" means learning by producing. When the learner "repeats" he is a mere echo; when he "responds" he becomes the originator.

The differentiation between the learners' activity in "repeating" and "responding" is crucial in understanding why the classroom is not a favorable situation for doing pattern drills. When a pattern drill is carried out in choral groups in class, it is literally only the first student to "respond" who actually has the chance to "respond": all the others are automatically forced to merely "repeat." They can no longer respond to the teacher's stimulus because the first student to speak up has already formulated it for them: he now becomes the model (and often a wrong one) and all the others become consciously or unconsciously his echo. In short, it is only

1. Pattern drills should, however, first be presented in class, particularly in the initial stage, so that each learner may have the opportunity to be heard as an individual by the teacher the first time that he says the new pattern so that he may receive help in pronunciation, etc.

in the language laboratory that pattern drills are "stimulus-and-response" learning; when carried out in class they become a mimicry-memorization exercise for all those whose "response" sets in after the first student to respond. The greater part of the group is never given a chance to "do it on your own," and hence is robbed of the very value of pattern drill practice.

Moreover, because those learners who are the first to respond get the best practice they will learn faster and faster; while those whose activity remains essentially echoistic, fall back further and further. The lag or learning gap between those who "respond" and those who are forced to "repeat" widens progressively with time.

The above observation served merely to demonstrate one of the many reasons why we must be wary of demanding "complete integration between lab and classroom." So long as classroom and lab continue to live side by side and the latter is available only on a limited basis, we should encourage the working teacher to assign to each those activities which it can perform most effectively. And as long as we believe in a program which, following a pre-reading phase, continues to emphasize listening and speaking after the addition of reading and writing, each locale should be used to channel the learner's energies into the type of activity which it can provide for the best cumulative results.

Learning activities in the laboratory.

If we accept the premise that the nature of the instrument will determine the learning activity, it follows that the language laboratory is best suited for developing the learner's skills in speaking the language and understanding the spoken language. Once we accept this premise, it means that the only material to be presented in the laboratory is material which was intended to be heard or spoken, i.e., the language of oral production. A further corollary is that since speaking and understanding the spoken language must be done without reliance on the eye, we would be foiling the learning process if we tempted the learner to rely on his eye by providing him with written materials during the learning phase in the laboratory.

Wearing a life-belt while learning to swim slows down and handicaps the learning process; using the eye instead of the ear slows down and handicaps the speaking and understanding process.

Other inherent pedagogical and psychological advantages which make the laboratory the ideal place for audio-lingual activities are: 1) all the learners can speak and respond at the same time, 2) the isolation lessens the inhibition factor so detrimental to language learning, 3) it increases the opportunity for unlimited practice, 4) the learner can proceed at his own speed and "make up" lessons he missed, 5) he can be exposed to many voices, 6) he is no longer exposed to the mistakes of his classmates, 7) he can be given remedial help without delaying the rest of the class, 8) accurate listening is improved by eliminating distracting noises, 9) much saving in the teacher's time and energy is effected because the tape can tirelessly present the material, and 10) the learner can practice at the time of his own choice.

In short, the language lab is the most efficient locale to develop the learner's competency in controlling, re-working and assimilating the structures and sounds that are strung together to communicate meaning in speech. It serves as a <u>training ground</u> to develop the speech automatisms which the learner will use in free conversation. And because the lab cannot be used for "free conversation," that is the type of activities in which the learner's verbal reaction is unpredictable, its function is limited to developing the learner's manipulative (mechanistic) skills in oral production in preparation for the creative (purposeful) use of language in the classroom, in short, <u>live speech</u>.

There are four basic types of practice that can be offered in the laboratory:

I. Listening-Comprehension Practice

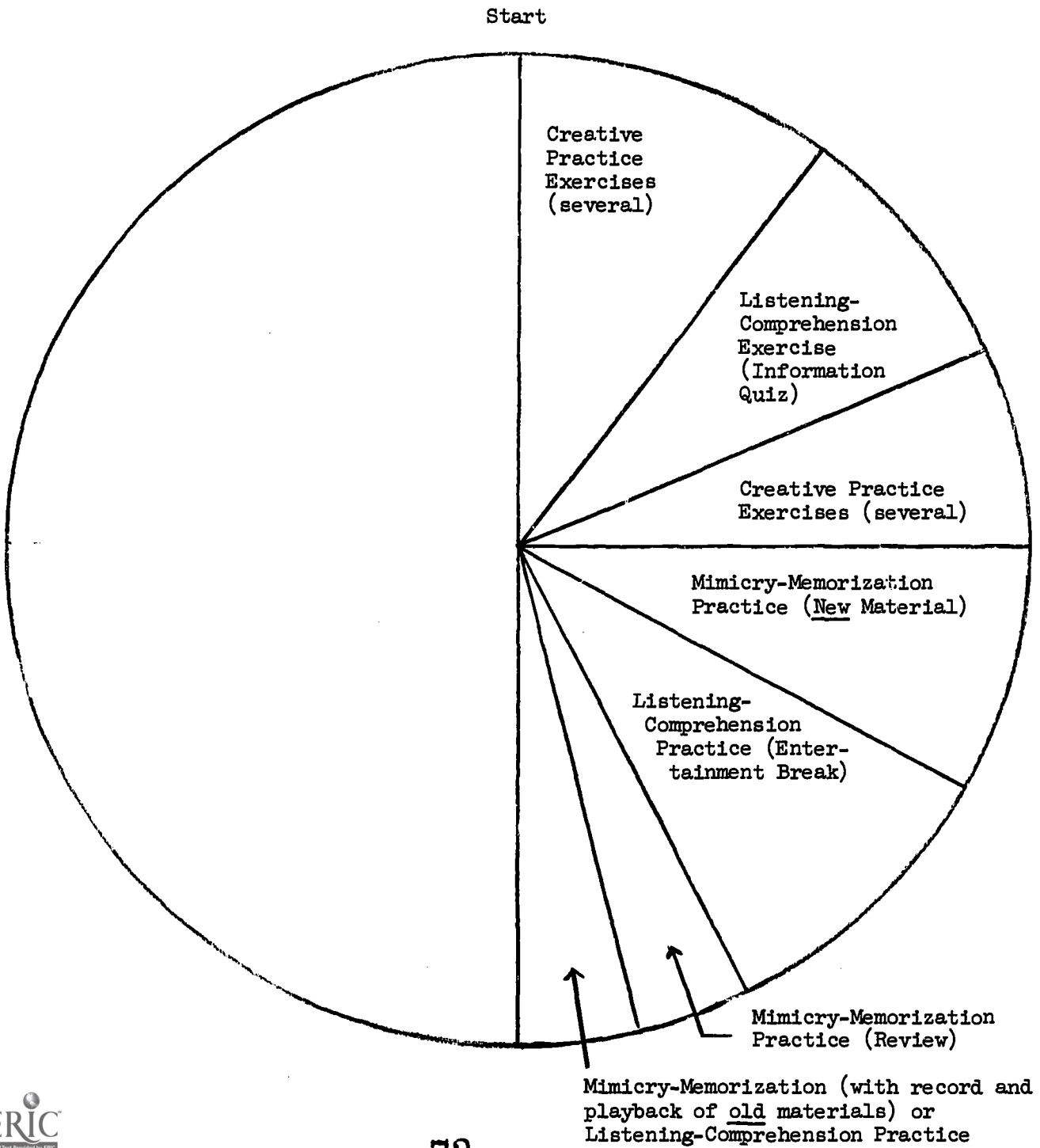
II. Mimicry-Memorization Practice

III. Creative Pattern Practice

Table I

Typical 30-Minute Automated Language Lab. Period

(All the directions to learner are recorded on tape)



IV. Self-evaluation Practice[2]

Each of these four practices aims at a specific objective. Each type of practice may employ a number of exercises. No single exercise should be longer than five minutes at most, but every laboratory period should preferably give the student all four types of practices. The more types of exercises used within each practice in a single laboratory period, the better. Continual variety, change of pace, and the creation of anticipation are essential for successful learning in a laboratory session. See Table I.

I. LISTENING-COMPREHENSION PRACTICE

When the FL teacher asks the learner to "listen," it may be for two purposes: 1) to prime him for imitating the sounds and structures he hears, or 2) to make him understand the meaning conveyed by sounds and patterns. The first is Mimicry-Memorization Practice; the latter Listening-Comprehension Practice. Each aims at a different objective; each has an anatomy and chemistry all of its own. Since Listening-Comprehension Practice serves to develop the learner's ability to understand the spoken language by ear alone, we would be thwarting our very objective by letting him see what he hears. (Which does not mean that he may not read it in class or at home after he has mastered it by ear alone.)

In Listening-Comprehension Practice the learner does not speak for reasons which will be discussed below; he merely tries to understand what he has heard. An essential part of Listening-Comprehension Practice consists, however, in providing the learner with a challenge that will help him to understand or check what he has heard, and this check should avoid any attempt to translate on the part of the learner.

The following format should be observed in devising a Listening-Comprehension Practice exercise:

2. Language laboratories which are not equipped with a student recording and playback facility in every booth cannot make use of the self-evaluatory practice on a mass basis. A student, however, can be recorded if the facilities include one or more tape recorders which are made available to each student from time to time.

Step 1. Present the material at a fairly normal rate of speech and make it as life-like as possible. Use the number of voices needed in a dialog.

Step 2. Repeat the material slightly faster.

Step 3. Present questions on the content with pauses for the student to think about the answer without saying it. After each pause give the correct answer.

Step 4. Repeat the material a third time.

The reason why the learner should not say, that is articulate, the answer is twofold: 1) if he were to answer in English, it would destroy the purpose of keeping the learning within the "cultural island," 2) if he were to answer in the target language, we would be violating the basic principle that the learner should never say anything that he has not had ample opportunity of hearing. Moreover, since we cannot provide a "correct response" which would allow the learner to evaluate the correctness of his answer in the target language, we cannot let him answer in the target language lest we violate the law of automated language practice, to wit: every time the learner gives a response it should immediately be followed by the predetermined correct master response. And in this type of exercise it is, of course, impossible to predetermine the answer.

These then are negative reasons for not allowing the learner to speak, either in English or the target language. There are positive ones, as well. If we were to make the learner answer in the target language, the vocabulary and structures of the material presented would need be limited to those actively practiced beforehand. Our very purpose in Listening-Comprehension is, however, to keep the recognition skill ahead of his rendering skill and indeed, to develop it still further. If we limit the learner to mere listening--a valuable activity per se--we can already let him hear the imperfect or a relative clause within context though he has not yet encountered it "formally," and above all we can develop his confidence in trusting his ear to understand much more than he believes he can by demonstrating to him that understanding means deriving meaning from context instead of decoding an utterance word by word.

The art of formulating the questions requires likewise special attention. Usually teachers ask questions to test what their students know--but in Listening-Comprehension Practice the questions should not be designed to test but to teach. Adapting the Socratic Method to our own purposes, questions should be formulated in such a way as to lead the learner to inevitably come to understand what he has heard. In short, the questions should be an aid to the learner, gently prodding him by means of suggestive questions, circumlocutions, antonyms, synonyms, and other devices to come gradually to understand what he has heard without ever feeling the need of translating. In order to abet this purpose, it is of course imperative that all questions avoid asking about minute details that would make the learner feel that he is being tested on his ability to remember. Our sole purpose is to help him to understand the gist of what he has heard.

Step 4, that is the presentation of the material after the questions and answers is perhaps the most important one. For now the learner has been challenged. He will be listening with "both ears" to discover what he may have missed or misunderstood.

A Note on the Examples: All the examples will be in English. The reader should imagine that he is a foreigner learning English as a second language. To get the effect of the exercises, they should be read aloud. For further clarification, please note that everything to be recorded on the tape in the foreign language is shown in CAPITAL LETTERS in this manual.

Examples of Listening Comprehension Exercises

A. Situation Dialog

Example

WE ARE IN PARIS. PAUL IS TALKING TO A POLICEMAN. LET'S APPROACH AND HEAR WHAT THEY ARE SAYING.[3]

"EXCUSE ME, OFFICER."

"YES, SIR."

3. All the instructions, including those concerning the handling of the equipment, such as "Now get set for recording your voice," or "Before you leave your booth be sure to turn off all controls," should be recorded on the tape so that they are heard at the precise time when they are needed. The instructions should preferably

"WHERE IS THE NEAREST POST OFFICE?"

"STRAIGHT AHEAD TO YOUR LEFT."

"HOW FAR IS IT?"

"ABOUT THREE MINUTES WALK."

NOW LET'S LISTEN TO THEM AGAIN. (Dialog is repeated at a faster rate of speech.)[4]

NOW YOU WILL HEAR THREE QUESTIONS. AFTER EACH QUESTION THERE WILL BE A SILENT PAUSE IN WHICH YOU HAVE TIME TO THINK OF THE ANSWER. DO NOT SAY THE ANSWER; JUST THINK ABOUT IT. THEN YOU WILL HEAR THE CORRECT ANSWER TO CHECK YOUR UNDERSTANDING.

WHAT DID PAUL WANT TO KNOW? (pause)[5] HE ASKED FOR THE NEAREST POST OFFICE.[6]

WAS THE POST OFFICE NEAR OR FAR? (pause) IT WAS VERY NEAR. JUST THREE MINUTES WALK.

WAS THE POST OFFICE TO THE LEFT? (pause) NO, IT WAS STRAIGHT AHEAD.

3. (cont'd) be in the target language. However, if there is the least doubt that the student will understand the instructions, they should be followed by an English translation. It should always be borne in mind that the machine cannot answer questions. If the student has not understood the instructions, the exercise will be lost on him. He will feel frustrated and helpless. If the student hears the instructions in the target language first, he will still be challenged. As he becomes more proficient and gets to know the various instructions, he can be weaned from reliance on the follow-up translation. After he has heard one kind of instruction for several laboratory periods, it will no longer be necessary to translate it. Whenever the teacher uses English it is suggested that he lower his voice, almost whisper the English. This will make the student feel that the use of English is but a necessary crutch and is not the vital part of the practice. The target language should always be spoken with clarity and emphasis, taking care at the same time never to depart from natural intonation, pronunciation and speed.

4. Artificially slow speech should never be presented to students, even at the very beginning of their language study. This is in keeping with the basic principle that in all its aspects, the language is to be taught as it is and not as anyone might think it should be. Material may be kept within the ability range of beginners by using shorter units, by employing only vocabulary and structural items already familiar to the class, and by further repetitions of the passage. The different rates of speed referred to must both fall within the range of normal speech, so that pronunciation and intonation patterns will not be distorted in any way. In addition to varying the speed slightly, the dialog might be presented the second (and third) time with other voices and/or slight variations in style.

5. Pause in which the student thinks about the answer. Remember that in all examples the text in capital letters is what the teacher or other master voices say on tape in the target language. The pauses in parentheses indicate the time space in which the student is either thinking, speaking, or engaged in some other response. The best way to get the feel of these exercises is to pronounce them out loud.

6. The answers to the questions in this exercise are given in the target language.

NOW LET'S LISTEN ONCE AGAIN TO PAUL AND THE POLICEMAN IN PARIS. (Dialog follows for the third time.)

A variant which sharpens the student's aural discrimination is the multiple choice answer. After hearing the above dialog twice, the student is instructed:

Example

I SHALL NOW ASK YOU THREE QUESTIONS. EACH QUESTION HAS THREE POSSIBLE ANSWERS, A, B, AND C. CHOOSE THE CORRECT ANSWER BY LETTER. THEN YOU WILL HEAR THE CORRECT LETTER TO CHECK YOUR UNDERSTANDING.

DID PAUL ASK THE POLICEMAN HOW TO GET TO A, THE RAILROAD STATION, B, THE POST OFFICE, C, THE EIFFEL TOWER? (pause) B, THE POST OFFICE, IS THE CORRECT ANSWER.

Etc. etc.

The multiple-choice answer has, of course, the advantage that to an even greater degree it eliminates the temptation to translate, and keeps the student immersed in the target language. He does not even think of the answer in English.

B. Information Quiz

An exercise with built-in suspense is a five-minute quiz program that can be included in every laboratory period. The student almost forgets that he is in the process of learning a foreign language because he becomes absorbed in finding the answer.

Example

AND NOW AGAIN OUR POPULAR PROGRAM WITH PROFESSOR KNOW-IT-ALL. HE ASKS THE QUESTIONS AND YOU THINK OF THE ANSWER. THEN YOU WILL HEAR THE CORRECT RESPONSE.

WHO WROTE HAMLET? WHO WROTE HAMLET? (pause) SHAKESPEARE.

WHAT IS THE CAPITAL OF SPAIN? WHAT IS THE CAPITAL OF SPAIN? (pause) MADRID.

Etc. etc.

The questions for the Information Quiz can be drawn from three sources: class reading, materials the learner is studying in his courses in science,

civics, geography, etc., or general information. When drawn from the latter source, questions can range over many fields of interest: literature, geography, science, or any subject matter with which the student is likely to be familiar. Questions may be formulated so as to require precise comprehension in order to know the correct response, but there is also definite value in the type of question which makes it possible for the student to answer correctly if he comprehends the gist only and not necessarily every word. Such an exercise is valuable in training students in the art of comprehending a little more than they can be absolutely sure of, that is, to derive meaning from context instead of decoding a sentence word by word.

C. True or False Challenge

Example

AND NOW OUR TRUE OR FALSE CHALLENGE. AFTER EACH STATEMENT YOU WILL HEAR, "TRUE OR FALSE?". IN THE PAUSE THAT FOLLOWS, THINK "TRUE" IF YOU BELIEVE THE STATEMENT IS TRUE, AND "FALSE" IF YOU BELIEVE IT TO BE FALSE. THEN YOU WILL HEAR THE CORRECT ANSWER.

IRON EXPANDS WHEN HEATED. IRON EXPANDS WHEN HEATED.

TRUE OR FALSE? (pause) TRUE.

TUESDAY COMES BEFORE WEDNESDAY. TUESDAY COMES BEFORE WEDNESDAY.

TRUE OR FALSE (pause) TRUE.

Etc. etc.

D. Entertainment Break

The student will appreciate it if the routine practice of every laboratory session is broken about midway by an entertaining item. Since it will necessarily contain some expressions the student has not encountered before, they should be explained before the story, anecdote, or song begins. Like the previous exercises, this one will be followed by several questions on content.

Example

AND NOW OUR SURPRISE OF THE WEEK. THIS WEEK WE READ IN CLASS ABOUT VOLTAIRE. AS YOU RECALL, VOLTAIRE HAD A BITING SENSE OF HUMOR. HERE IS AN ANECDOTE ABOUT HIM WHICH YOU WILL ENJOY. BUT BEFORE WE BEGIN, HERE ARE A FEW EXPRESSIONS WHICH YOU MAY NOT KNOW.

(The teacher on tape now says the new expressions in the following sequence: 1) target language, 2) translation, 3) again in the target language.) And now our anecdote about Voltaire. RELAX, AND LISTEN CAREFULLY.

Note. For this type of exercise, which is intended to entertain while instructing, the answers to the questions on content might be given in both the target language and English. This way the student who may not have understood the "point" of the story will not feel left out of the fun that the rest of the class is having. Here again it is recommended that anything translated for the student, such as the new expressions above or the answers to the questions, be immediately repeated in the target language so that the acoustical impression left with the student is not that of English but that of the target language itself.

II. MIMICRY-MEMORIZATION PRACTICE

New structures, forms and vocabulary may be incorporated into short dialogs to be presented orally, practiced in order to acquire correct pronunciation and intonation, and memorized. Such material will be composed of relatively short sentences in the early stages of instruction.

A. Presentation of Dialogs Composed of Short Sentences

It is suggested that new dialog material be broken into groups of four to six sentences and that the following steps be observed:

Step 1. The student hears the entire four to six-line group five to ten times without repeating. This recommendation is based on the experience that much failure in pronunciation at an early level is due to the fact that students fail to hear accurately first.

Hearing each sentence several times before calling for repetition is intended to help students absorb the sounds better.

Step 2. Student hears each line at least three times with a pause for repetition, i.e.:

Model sentence #1. (pause for repetition)
Model sentence #1. (pause for repetition)
Model sentence #1. (pause for repetition)

Letting the student hear and repeat the sentence at least three times puts him at ease and lets him be freer "to take a chance" on the first and second repetition. Moreover, the second and third model and repetition provide the student with an immediate opportunity for self-correction. It is only in articulating the sentence that the student discovers where his difficulties lie.

Step 3. The student again hears the entire four to six line group. This time each model sentence is heard only once and repeated by the student only once.

Step 4. When all the groups of sentences composing the dialog have been presented and practiced in this manner, the entire dialog may be reviewed, each sentence being heard once and repeated once by the student.

Example of Steps 1, 2 and 3

LISTEN WITHOUT REPEATING.

CAN'T YOU COME ALONG?

SORRY, I CAN'T.

WELL, THEN SOME OTHER TIME.

I HOPE SO.

CAN'T YOU COME ALONG?

SORRY, I CAN'T.

WELL, THEN SOME OTHER TIME.

I HOPE SO.

(Student hears the same dialog several times more without repeating.)

NOW LISTEN AND REPEAT.

CAN'T YOU COME ALONG? (pause) CAN'T YOU COME ALONG? (pause) CAN'T YOU COME ALONG? (pause)

SORRY, I CAN'T. (pause) SORRY, I CAN'T. (pause) SORRY, I CAN'T. (pause)

WELL, THEN SOME OTHER TIME. (pause) WELL, THEN SOME OTHER TIME. (pause) WELL, THEN SOME OTHER TIME. (pause)

I HOPE SO. (pause) I HOPE SO. (pause) I HOPE SO. (pause)

LISTEN AND REPEAT ONCE MORE.

CAN'T YOU COME ALONG? (pause)

SORRY, I CAN'T. (pause)

WELL, THEN SOME OTHER TIME. (pause)

I HOPE SO. (pause)

Materials once learned should never be allowed to lie dormant for long. Reinforcement through frequent recurrence and re-practice is essential for the success of the mimicry-memorization process. Such reinforcement can be provided by means of a cumulative review in which each phrase learned in previous dialogs is reviewed at regular intervals in the course of the year's work. In such a cumulative review it should prove sufficient to have the student hear and repeat each phrase only once in each session. It is also suggested that the dialogs practiced in the laboratory be acted out in class by means of teacher-student dialogs (and reversed roles student-teacher dialogs), pupil-pupil chain dialogs, and situation dialogs between two or more students.

B. Longer Sentences

Longer sentences are best presented in meaningful thought units increasing in length. The student has enough of a job trying to imitate the sounds he hears; we should not ask him to memorize at the same time a sequence of ten or more words.

As the following example shows, the sentence is broken up into thought units beginning at the end of the sentence. The purpose of this is to insure that the speech melody of each unit corresponds at all times to the complete sentence.[7]

Each phrase is presented in the same fashion. The longer phrases selected for mimicry-memorization practice should always be of the type

7. For a complete discussion, see Patricia O'Connor, Modern Foreign Languages in High School: Prereading Instruction, pp. 20-21, Office of Education, Washington 25, D. C. (There is no charge for this circular.)

encountered in conversation. The reader might give some thought to the question as to whether any material that would not be used in conversation, such as literary prose, should ever be offered in laboratory practice for anything except perhaps listening-comprehension practice.

Example

YOU WILL NOW HEAR A SENTENCE FIVE TIMES. LISTEN, BUT DO NOT REPEAT.

YESTERDAY WE WENT TO THE BEACH BUT THEN IT BEGAN TO RAIN. (Repeated four times.)

NOW LISTEN AND REPEAT.

IT BEGAN TO RAIN. (pause) IT BEGAN TO RAIN. (pause)

THEN IT BEGAN TO RAIN. (pause) THEN IT BEGAN TO RAIN. (pause)

BUT THEN IT BEGAN TO RAIN. (pause) BUT THEN IT BEGAN TO RAIN. (pause)

WE WENT TO THE BEACH BUT THEN IT BEGAN TO RAIN. (pause)
WE WENT TO THE BEACH BUT THEN IT BEGAN TO RAIN. (pause)

YESTERDAY WE WENT TO THE BEACH BUT THEN IT BEGAN TO RAIN. (pause)
YESTERDAY WE WENT TO THE BEACH BUT THEN IT BEGAN TO RAIN. (pause)

III. CREATIVE PATTERN PRACTICE

An effective laboratory program should go far beyond mere listening-comprehension and mimicry-memorization exercises. Creative practice exercises, such as the ones indicated below, are perhaps the most valuable type of practice because they challenge the learner to recreate or restate a variety of patterns without the help of an immediately preceding model. They are a necessary intermediate step between the memorization of models and free conversation. Furthermore, no other type of practice is as effective in achieving mastery of structure and form. In other words, Creative Practice exercises are that phase of language learning in which the student gains control of "grammar" not by pondering over it but by practicing it, not by analysis but by analogy, by doing rather than thinking.

It should be clearly understood that the purpose of pattern drills is not to test, however informally, the student's knowledge of rules or generalizations previously studied. The drills are not traditional puzzles to be solved intellectually; they are practice in doing what is right, and it should be easy for the attentive student to respond correctly.

Creative Practice exercises are the most challenging part of automated language practice. Although they are not designed to test in the academic meaning, they challenge the learner because they are in effect a continual series of self-tests. But these tests are not designed to test but to teach. Immediately after giving his solution-response, the learner hears the correct response from the "teacher on tape." Motivation is therefore not only increased because of the continual challenge but because the learner has an immediate check on his performance.

It is suggested that in the beginning stages of creative practice every exercise should have but a single objective. The student should be asked to manipulate only one element at one time. And the variation that the teacher expects the student to make should be the only one that can be made.

In other words, creative practice is not free conversation but systematic and sustained practice in a specific linguistic structure predetermined by the teacher. Predetermination of the student's solution-response is necessary because the machine cannot evaluate the correctness of the student's solution. The task of evaluation must therefore be shifted to the student himself. If the exercise is so devised that there can be only one solution, and if the student hears and repeats it, he will have sufficient means of evaluating his performance. Therefore every Creative Pattern Practice exercise must contain the built-in, self-correcting response.

Every creative pattern drill should be based on the audio-form of the language and be constructed according to the findings of structural linguistics.

At later stages, when a student has mastered a structural point completely, he may be asked to vary additional elements in a single exercise. Such an exercise should, however, have only one correct response. For an example of a Multivariation Exercise, see the following.

The following format should be observed in devising an exercise for creative practice: (see Table II)

The Perception Phase

Step 1. The learner hears and repeats at least five models (both stimulus and response) which make clear what the underlying structure is and how it is changed.

The Creative Phase

Step 2. The student (a) hears a cue and (b) attempts to give the correct response.

Step 3. The student (a) hears the taped voice give the correct response and (b) repeats it. This serves either to confirm to the student that he was right, or to help eradicate any imperfect speech habits he may be developing.

It should be noted that the act of phonating the correct response is perhaps at times the only way that a learner will become aware that his structures were not the same as that of the master correct response.

There are four basic types of creative practice exercises:

1. Pattern re-creation. The student is required to restate a pattern--an idiom, a phrase, or an expression--which does not involve any grammatical changes such as variation in form (singular to plural, present to past, etc.) or variation in word order.
2. Pattern mutation. The student is required to manipulate morphology, such as transforming present to past, singular into plural, nouns into pronouns, etc.
3. Pattern rearrangement. The student is required to manipulate syntax, that is, he is asked to transform the word order of a phrase into a new word order which communicates a new meaning or is required by the type of sentence structure being drilled.

   Note: Types 2 and 3 are often combined into one, i.e., the learner changes both forms and syntax.

4. Vocabulary building. The student is required to form new words from a given root word, such as nouns from verbs, adjectives from nouns, etc.

Several mechanisms can be used for devising exercises which may be any of the four basic types:

Table II

Diagram of Creative Practice in 4-Cycle Exercise

Student has completed Step 1, the Perception Phase. Diagram shows Steps 2 and 3.

2a	2b	3a	3b
Cue from tape	Pause in which student attempts to give correct response	Correct response by tape	Pause in which student repeats corrent response
I know George	I know it (Incorrect response)	I know him	I know him

The above diagram shows the same 4-cycle exercise in which the student gives an incorrect response. This is an exercise in pronoun selection and placement.

a. Substitution mechanism. The student is required to substitute one element (i. e. , word, phrase or form) for another element.

b. Expansion mechanism. The student is required to expand a statement by preceding it with an element, adding or inserting an element.

c. Question and answer mechanism. The student is required to answer a question.

d. Combination mechanism. The student is required to link two independent statements into a single sentence with a different meaning.

e. Directed dialog mechanism. The student is required to address an utterance to someone, according to instructions.

f. Priming mechanism. The student is required to manipulate the language according to specific instructions employing grammatical terminology.

It should be noted that the "mechanisms" are not an end in itself but merely a means for activating the learner's use of the language. In other words, in a substitution mechanism our aim is not to have the learner substitute but to have him create the pattern by means of various substitutions which he is given. The mechanisms serve further to practice one and the same structure by various means. For example the structure "il faut que" could be practiced by three or four of the various mechanisms within one lab period thus illustrating its use from different angles.

Examples

The following four examples illustrate the four basic exercise types employing the substitution mechanism.[8]

1. Pattern Re-creation. Practice in using the phrase give me with various objects.

Example

LISTEN AND REPEAT.

JOHN, GIVE ME THE BOOK. (pause)

JOHN, GIVE ME THE PEN. (pause)

JOHN, GIVE ME THE CHALK. (pause)

8. It is again suggested that the reader say the exercises out loud in order to get the feel of the way they work in practice. Table III shows how the next few examples would look in Spanish, German and French.

Table III

Example of Pattern Re-creation Exercise in French

Ecoutez et répétez. Listen and repeat.

Jean, donnez-moi le livre. (pause)
Jean, donnez-moi la plume. (pause)
Jean, donnez-moi la craie. (pause)
Etc.

Maintenant essayez tout seul. Demandez à Jean de vous donner les objets suivants. Now try it on your own. Ask John to give you the following objects. Et répétez la réponse correcte. And repeat the correct response.

Le livre. (pause) Jean, donnez-moi le livre. (pause)
La plume. (pause) Jean, donnez-moi la plume. (pause)
La craie. (pause) Jean, donnez-moi la craie. (pause)
Etc.

Example of Pattern Re-creation Exercise in German

Hören Sie zu und wiederholen Sie nach mir. Listen and repeat.

Er hat ein Buch. (pause) Hat er ein Buch? (pause)
Er hat eine Feder. (pause) Hat er eine Feder? (pause)
Er hat ein Auto. (pause) Hat er ein Auto? (pause)
Etc.

Und jetzt versuchen Sie es allein. Fragen Sie, ob "er" die folgenden Dinge hat. Now try it on your own. Ask whether "he" has the following objects.

Wiederholen Sie die richtige Antwort. Repeat the correct response.

Ein Buch. (pause) Hat er ein Buch? (pause)
Eine Feder. (pause) Hat er eine Feder? (pause)
Ein Auto. (pause) Hat er ein Auto? (pause)

Example of Pattern Re-creation Exercise in Spanish

Escuche y repita. Listen and repeat.

Veo una pluma. (pause) Veo dos plumas. (pause)
Veo un libro. (pause) Veo dos libros. (pause)
Veo una casa. (pause) Veo dos casas. (pause)

Ahora, hágalo a solas. Diga que ve dos de los objetos siguientes. Now on your own. Say that you see two of the following objects. Repita la respuesta correcta. Repeat the correct response.

Veo una pluma. (pause) Veo dos plumas. (pause)
Veo un libro. (pause) Veo dos libros. (pause)
Veo una casa. (pause) Veo dos casas. (pause)

JOHN, GIVE ME THE INK. (pause)

JOHN, GIVE ME THE PENCIL. (pause)

NOW ON YOUR OWN. ASK JOHN TO GIVE YOU THE FOLLOWING OBJECTS.

AND PLEASE REPEAT THE CORRECT RESPONSE.

THE BOOK. (pause)[9] JOHN, GIVE ME THE BOOK. (pause)[10]

THE PEN. (pause) JOHN, GIVE ME THE PEN. (pause)

THE CHALK. (pause) JOHN, GIVE ME THE CHALK. (pause)

THE INK. (pause) JOHN, GIVE ME THE INK. (pause)

THE PENCIL. (pause) JOHN, GIVE ME THE PENCIL. (pause)

2. Pattern Mutation. Practice in transforming singular into plural.

Example

LISTEN AND REPEAT.

I SEE A PEN. (pause) I SEE TWO PENS. (pause)

I SEE A BOOK. (pause) I SEE TWO BOOKS. (pause)

I SEE A TREE. (pause) I SEE TWO TREES. (pause)

I SEE A CLOCK. (pause) I SEE TWO CLOCKS. (pause)

I SEE A CAR. (pause) I SEE TWO CARS. (pause)

NOW TRY IT ON YOUR OWN. SAY THAT YOU SEE TWO OF THE FOLLOWING OBJECTS.

AND REPEAT THE CORRECT RESPONSE.

I SEE A PEN. (pause) I SEE TWO PENS. (pause)

I SEE A BOOK. (pause) I SEE TWO BOOKS. (pause)

I SEE A TREE. (pause) I SEE TWO TREES. (pause)

I SEE A CLOCK. (pause) I SEE TWO CLOCKS. (pause)

I SEE A CAR. (pause) I SEE TWO CARS. (pause)

3. Pattern Rearrangement. Practice in formulating a question by means of changing the word order from subject-verb to verb-subject.

9. This is the pause in which the student attempts to re-create the entire sentence. It should be longer than a pause in which the student merely repeats.

10. This is the pause in which the student repeats the correct response he has just heard.

Example

LISTEN AND REPEAT.

HE HAS A BOOK. (pause) HAS HE A BOOK? (pause)

HE HAS A PEN. (pause) HAS HE A PEN? (pause)

HE HAS A CAR. (pause) HAS HE A CAR? (pause)

HE HAS A PENCIL. (pause) HAS HE A PENCIL? (pause)

HE HAS A BICYCLE. (pause) HAS HE A BICYCLE? (pause)

NOW ON YOUR OWN. ASK WHETHER "HE" HAS THE FOLLOWING OBJECTS. AND REPEAT THE CORRECT RESPONSE.

A BOOK. (pause) HAS HE A BOOK? (pause)

A PEN. (pause) HAS HE A PEN? (pause)

A CAR. (pause) HAS HE A CAR? (pause)

A PENCIL. (pause) HAS HE A PENCIL? (pause)

A BICYCLE. (pause) HAS HE A BICYCLE? (pause)

4. Vocabulary Building.

Example

As you recall, we learned this week in class that many verbs can be turned into nouns by adding the sound er. Such a verb then communicates the idea that the person is engaged in the activity expressed by the verb.

LISTEN AND REPEAT.

I PAINT. (pause) I AM A PAINTER. (pause)

I SWIM. (pause) I AM A SWIMMER. (pause)

I DANCE. (pause) I AM A DANCER. (pause)

I WRITE. (pause) I AM A WRITER. (pause)

I WORK. (pause) I AM A WORKER. (pause)

NOW TRY IT ON YOUR OWN. SAY WHAT YOU ARE. AND REPEAT THE CORRECT RESPONSE.

I PAINT. (pause) I AM A PAINTER. (pause)

I SWIM. (pause) I AM A SWIMMER. (pause)

I DANCE. (pause) I AM A DANCER. (pause)

I WRITE. (pause) I AM A WRITER. (pause)

I WORK. (pause) I AM A WORKER. (pause)

Note. As you will have observed, the above exercise was preceded by a grammatical "explanation." The word explanation is in quotes because it is in fact not an explanation of a new grammatical point. Although the language laboratory does not lend itself to the analysis or explanation of grammatical or structural points,[11] it may be useful at times to refresh the student's memory of the grammatical structure he is about to practice by drawing his attention to it.

On the other hand, as preceding examples have illustrated, the laboratory is eminently effective in presenting forms and structural patterns by the inductive method and through analogy. If such a procedure is used, the student will then hear the structural or grammatical point he has been practicing explained at a later time in class, if at all.

The reader will note also that this vocabulary building exercise presented vocabulary not as isolated constructions but as integral parts of sentences. As a cardinal principle it might be stated that any utterance that the learner makes in a laboratory should always be a complete sentence that is both natural and plausible.

It will also be noted that the instructions to the learner have avoided the use of grammatical terminology. If the audio-lingual method is to be applied properly in the laboratory, the instructions should always try to elicit from a learner a verbal behavior that is as lifelike as possible. Instead of directing him to "Change the present indicative to the past," it is in keeping with the communicative approach to language learning to direct the learner to "Say that the action you will hear happened yesterday." The teacher need not be concerned about using simple vocabulary in the drills. Our purpose is to implant correct structures and this is furthered when the learner does not have to concentrate on understanding unfamiliar words.

Thus far we have illustrated the four basic types of creative pattern practice exercises employing the substitution mechanism. Although our examples were in English, the reader will readily see how these principles and mechanisms can be adapted to the foreign language he is teaching.

Space does not permit illustrating all four basic types (pattern recreation, pattern mutation, pattern rearrangement, vocabulary building) in the following examples of the other mechanisms that can be used. Only one or two basic types will be shown.

Expansion mechanism

a. Practice in completing a statement with a logical conclusion. (The student is required to expand the statement by adding an element.)

Example

LISTEN AND REPEAT.

IN THE MORNING WE GO TO SCHOOL. (pause) IN THE AFTERNOON WE GO HOME. (pause)

AFTER BREAKFAST WE GO TO SCHOOL. (pause) AFTER LUNCH WE GO HOME. (pause)

(Student hears and repeats more models for saturation practice.)

11. One of the reasons is, of course, that the student has no opportunity to ask questions. Furthermore, English would have to be used and any time that English is used by the teacher in the laboratory, valuable time for practice of the target language is lost to the student.

NOW ON YOUR OWN. SAY WHAT YOU ARE DOING AT THE TIME OF THE DAY YOU WILL HEAR. AND REPEAT THE CORRECT RESPONSE.

IN THE MORNING. (pause) IN THE MORNING WE GO TO SCHOOL. (pause)

IN THE AFTERNOON. (pause) IN THE AFTERNOON WE GO HOME. (pause)

Etc. etc.

b. Practice in using the present and past of the verb go in the first person singular. (The student is required to expand a cue by inserting an element.)

Example

LISTEN AND REPEAT.

TODAY I GO TO SCHOOL. (pause) YESTERDAY I WENT TO SCHOOL. (pause)

TODAY I GO TO THE BEACH. (pause) YESTERDAY I WENT TO THE BEACH. (pause)

(Student hears and repeats more models for saturation practice.)

NOW ON YOUR OWN. SAY WHAT YOU ARE DOING TODAY AND WHAT YOU DID YESTERDAY. AND REPEAT THE CORRECT RESPONSE.

TODAY, SCHOOL. (pause) TODAY I GO TO SCHOOL. (pause)

YESTERDAY, SCHOOL. (pause) YESTERDAY I WENT TO SCHOOL. (pause)

TODAY, THE BEACH. (pause) TODAY I GO TO THE BEACH. (pause)

Etc. etc.

Note. Expansion exercises are not "fill-the-blank" type exercises. For example, in the preceding exercises the student was not asked to complete a sentence started by the teacher, such as "in the morning we go (pause)" or "Today I (pause) to school." "Fill-the-blank" exercises do violence to the natural way people talk. This is particularly noticeable on tape when one voice (the teacher's) starts a sentence and another voice (the student's) completes it. Moreover, "fill-the-blank" exercises often destroy natural liaison of the spoken language.

c. Practice in using transposed word order (as in German) in dependent clauses. (Learner is required to expand the statement by preceding it with an element.)

Example

LISTEN AND REPEAT.

TODAY IT IS HOT. (Pause) HE SAYS THAT TODAY IT HOT IS. (pause)

THE WEATHER IS NICE. (pause) HE SAYS THAT THE WEATHER NICE IS. (pause)

(Learner hears and repeats more models for saturation practice.)

NOW TRY IT ON YOUR OWN. PRECEDE EACH STATEMENT YOU WILL HEAR BY HE SAYS THAT... REPEAT THE CORRECT RESPONSE.

TODAY IT IS HOT. (pause) HE SAYS THAT TODAY IT HOT IS. (pause)

MOTHER IS HERE. (pause) HE SAYS THAT MOTHER HERE IS. (pause)

Etc. etc.

Question and Answer mechanism

a. Practice in telling time.

Example

LISTEN AND REPEAT.

DOES SCHOOL BEGIN AT EIGHT? (pause) NO, IT BEGINS AT HALF PAST EIGHT. (pause)

DOES THE TRAIN ARRIVE AT SEVEN? (pause) NO, IT ARRIVES AT HALF PAST SEVEN. (pause)

(Student hears and repeats more models for saturation practice.)

NOW ON YOUR OWN. ANSWER EACH QUESTION BY SAYING THAT THE ACTION BEGINS HALF AN HOUR LATER. AND REPEAT THE CORRECT RESPONSE.

DOES SCHOOL BEGIN AT EIGHT? (pause) NO, IT BEGINS AT HALF PAST EIGHT. (pause)

DOES THE TRAIN ARRIVE AT SEVEN? (pause) NO, IT ARRIVES AT HALF PAST SEVEN. (pause)

Etc. etc.

b. Practice in changing form of adjective. (Inflection exercise)

Note. In English adjectives do not, of course, change their form. For demonstration purposes let us suppose that it would change its form when used with a feminine noun by adding the sound elle.

Example

LISTEN AND REPEAT.

FATHER IS GOOD. (pause) MOTHER IS GOODELLE. (pause)

JOHN IS NICE. (pause) JANE IS NICELLE. (pause)

(Student hears and repeats more models for saturation practice.)

NOW ON YOUR OWN. ANSWER EACH QUESTION. AND REPEAT THE CORRECT RESPONSE.

FATHER IS NICE. AND MOTHER? (pause) MOTHER IS NICELLE. (pause)

JOHN IS GOOD; AND JANE? (pause) JANE IS GOODELLE. (pause)

Etc. etc.

Note. The question "and mother," "and Jane," is added to help the student concentrate on the task at hand. He may not remember the female "opposite" of the person or object mentioned.

Combination mechanism

a. Practice in use of subjunctive forms.

Example

LISTEN AND REPEAT.

HE HAS NO TIME. (pause) HE CANNOT COME. (pause) IF HE HAD TIME, HE WOULD COME. (pause)

HE HAS NO MONEY. (pause) HE CANNOT BUY IT. (pause) IF HE HAD MONEY, HE WOULD BUY IT. (pause)

(Student hears and repeats more models for saturation practice.)

NOW ON YOUR OWN. LINK THE TWO STATEMENTS YOU WILL HEAR INTO A SENTENCE BEGINNING WITH IF. PLEASE REPEAT THE CORRECT RESPONSE.

HE HAS NO TIME. HE CANNOT COME. (pause) IF HE HAD TIME, HE WOULD COME. (pause)

HE HAS NO MONEY. HE CANNOT BUY IT. (pause) IF HE HAD MONEY, HE WOULD BUY IT. (pause)

Etc. etc.

b. Practice in using the pronouns he, she, they.

Example

LISTEN AND REPEAT.

FATHER WORKS IN THE GARDEN. (pause) FATHER ENJOYS IT. (pause)

HE WORKS IN THE GARDEN AND HE ENJOYS IT. (pause)

JOHN SWIMS IN THE POOL. (pause) JOHN ENJOYS IT. (pause)

HE SWIMS IN THE POOL AND HE ENJOYS IT. (pause)

(Student hears and repeats more models for saturation practice.)

NOW ON YOUR OWN. LINK THE TWO STATEMENTS YOU WILL HEAR INTO A SENTENCE AND USE HE. AND REPEAT THE CORRECT RESPONSE.

FATHER WORKS IN THE GARDEN. FATHER ENJOYS IT. (pause)

HE WORKS IN THE GARDEN AND HE ENJOYS IT. (pause)

JOHN SWIMS IN THE POOL. JOHN ENJOYS IT. (pause)

HE SWIMS IN THE POOL AND HE ENJOYS IT. (pause)

Etc. etc.

Synopsis Drill

After the pronouns she, and they have been presented and practiced in similar fashion and fully mastered after several lab workouts, the learner is instructed:

MOTHER WORKS IN THE GARDEN. MOTHER ENJOYS IT. (pause)

SHE WORKS IN THE GARDEN AND SHE ENJOYS IT. (pause)

MOTHER AND FATHER WORK IN THE GARDEN. MOTHER AND FATHER ENJOY IT. (pause)

THEY WORK IN THE GARDEN AND THEY ENJOY IT. (pause)

Etc. etc.

A synopsis drill, then, can be defined as a drill in which related structures which the learner has practiced individually are presented for random practice.

Directed dialog mechanism

a. Practice in pattern "I don't. . . you."

Exercise

LISTEN AND REPEAT

TELL ME YOU DON'T UNDERSTAND ME. (pause) I DON'T UNDERSTAND YOU. (pause)

TELL ME YOU DON'T LIKE ME. (pause) I DON'T LIKE YOU. (pause)

TELL ME YOU DON'T SEE ME. (pause) I DON'T SEE YOU. (pause)

(Student hears and repeats more models for saturation practice.)

NOW TRY IT ON YOUR OWN. TELL ME WHAT YOU WILL BE INSTRUCTED TO SAY. BE SURE TO REPEAT THE CORRECT RESPONSE.

TELL ME YOU DON'T HEAR ME. (pause) I DON'T HEAR YOU. (pause)

TELL ME YOU DON'T UNDERSTAND ME. (pause) I DON'T UNDERSTAND YOU. (pause)

Etc. etc.

Priming mechanism

In most of the preceding exercises the learner was instructed to "answer," to "ask," to "say," etc. Whenever possible the directions to the student should make him feel that even in the laboratory he is still practicing language as a means of communication. It is suggested that directions such as "Make a sentence with...," "Complete the sentence by...," etc. be avoided.

At a more advanced level, however, the priming mechanism can be used as a catchall mechanism for exercises in which the teacher wants the learner to manipulate the language in accordance with instructions employing grammatical terminology.

a. Practice in present and past of irregular verbs.

Example

LISTEN AND REPEAT.

TODAY I BUY A CAR. (pause) YESTERDAY I BOUGHT A CAR. (pause)

TODAY I BUY A BOOK. (pause) YESTERDAY I BOUGHT A BOOK. (pause)

(Student hears and repeats more models for saturation practice.)

NOW ON YOUR OWN. IF THE SENTENCE YOU HEAR IS IN THE PRESENT, CHANGE IT TO THE PAST: IF IT IS IN THE PAST CHANGE IT TO THE PRESENT. AND REPEAT THE CORRECT RESPONSE.

ONE. I BUY A CAR. (pause) I BOUGHT A CAR. (pause)

TWO. I BOUGHT A BOOK. (pause) I BUY A BOOK. (pause)

Etc. etc.

Note. It will be observed that this is the first exercise in which each item is labeled by One, Two, etc. This is necessary in order to keep the student from confusing the cue with the correct response. Whenever numbering of items is not necessary to clarify to the student what the next step is, it should be avoided in order to make the student feel at ease instead of making him feel that he is drilling language "by the numbers."

b. Practice in use of the genitive case.

Example

LISTEN AND REPEAT.

THE HOUSE OF MY FATHER. (pause) MY FATHER'S HOUSE. (pause)

THE CAT OF MY BROTHER. (pause) MY BROTHER'S CAT. (pause)

(Student hears and repeats more models for saturation practice.)

NOW ON YOUR OWN. CHANGE EACH OF THE STATEMENTS YOU WILL HEAR INTO THE POSSESSIVE CASE WITH S. AND REPEAT THE CORRECT RESPONSE.

THE HOUSE OF MY FATHER. (pause) MY FATHER'S HOUSE. (pause)

THE CAT OF MY BROTHER. (pause) MY BROTHER'S CAT. (pause)

Etc. etc.

Multivariation Exercise

The following example illustrates an exercise in which the student is asked to change three elements. It is assumed that he has mastered 1) the third person subject pronouns, 2) the past tense of the verb buy, and 3) the plural of regular nouns. Now he is given practice in combining his skill with these three patterns in a single exercise.

Example

LISTEN AND REPEAT.

JOHN BUYS A BOOK. (pause) HE BOUGHT TWO BOOKS. (pause)

MOTHER BUYS A DRESS. (pause) SHE BOUGHT TWO DRESSES. (pause)

(Student hears and repeats more models for saturation practice.)

NOW ON YOUR OWN. SAY THAT THE PERSON MENTIONED BOUGHT TWO OF THE OBJECTS YOU WILL HEAR AND USE THE PRONOUN. REPEAT THE CORRECT RESPONSE.

JOHN, BOOK. (pause) HE BOUGHT TWO BOOKS. (pause)

MOTHER, DRESS. (pause) SHE BOUGHT TWO DRESSES. (pause)

Etc. etc.

A variant form of the master cue in this example might be:

DID JOHN BUY MORE THAN ONE BOOK? (pause) YES, HE BOUGHT TWO BOOKS. (pause)

DID YOUR MOTHER BUY MORE THAN ONE DRESS? (pause) YES, SHE BOUGHT TWO DRESSES. (pause)

Etc. etc.

A Multivariation Drill then, can be defined as a drill in which unrelated forms and structures, which the learner has practiced and mastered individually, are presented for random practice.

Parceling of Ready-made Units

The following is a blueprint for adapting commercial materials for automated language practice by transforming the source material into a language workout which includes hearing, listening-comprehension, mimicry-memorization, reading, copying, and writing.

For the mechanical procedure in the art of parceling, follow these directions:

1) Load your source material on tape recorder A, the playing machine. The latter must have an instantaneous pause button and preferably one that can be locked into position.

2) Load a blank tape on tape recorder B, the recording machine. An instantaneous pause button on the second machine is helpful but not necessary.

3) Connect tape recorder A to B by plugging one end of a patch cord into the External Amplifier Outlet of machine A and the other end into the Radio/Phonograph Input of machine B. Leave the loudspeaker on machine B in "On" position.

4) After matching the volume controls for best results you are ready to transfer the source material on machine A with proper pauses on to the blank tape on machine B.

5) To insert the pauses between the source material as it is being transferred to the blank tape on B, simply stop the tape on machine A with the instantaneous pause button. While tape on A is thus stopped, the tape on B continues to run while "recording" silent space. As soon as you release the pause button on machine A, the source material will again be recorded on machine B.[12]

12. If the source material is on disc, it can be either first transferred to a tape (which then becomes Tape A) or the disc on a turntable can be used as machine A. In order to stop the disc instantaneously for inserting the pauses, cut a sheet of paper that is larger than the turntable and place it between the turntable and the disc. To stop the disc, grasp the sheet of paper with forefinger and thumb. If the latter method is used, let the learner first hear the entire dialog in short utterances and then the entire dialog in longer ones. This is necessary because it is almost impossible to find the exact starting point on a microgroove disc.

6) To record your voice--directions to the learner, questions, answers--follow these steps: stop both machines A and B and lock instantaneous pause button into stop position; unplug patch cord on machine B; plug in mike on machine B; release pause button on machine B and speak into the mike.[13]

In addition to the two tape recorders, the patch cord and the tapes, you will need a stop watch, a tapescript on which you have written everything you will voice, the text of the source material, and a blue and a red pencil.

It is suggested that you read the following tapescript aloud so as to get "the feel" of the program. Please note that for demonstration purposes our target language is English. CAPITAL LETTERS indicate what you will say and record (what you will "voice" as the jargon has it); the very small print shows what the native voices on the source material say; and the standard print represents running explanations which, of course, would not be recorded.

SAMPLE OF PARCELED LAB UNIT

LIFE IN THE UNITED STATES SERIES, NUMBER 5. TODAY WE ARE BACK WITH OUR FRIENDS BOB AND MARTIN IN THE TOWN OF HANGMAN'S FLAT, SOUTH DAKOTA. AS YOU RECALL MARTIN IS AN EXCHANGE STUDENT FROM ABROAD STAYING WITH BOB AND HIS FAMILY. WHILE TAKING A WALK THEY PASS BY A HIGH SCHOOL. LET'S APPROACH AND HEAR WHAT THEY ARE SAYING:

What's this building, Bob?--It's our high school, Martin, and school is just out.--You mean the students go home at a quarter to four?--Yes, and there are the buses waiting for them.

etc. The entire two minute dialog between Bob and Martin is transferred from Tape A to Tape B.

NOW LET'S LISTEN ONCE MORE TO BOB AND MARTIN.

The entire dialog is transferred a second time from A to B.

NOW YOU WILL HEAR BOB AND MARTIN AGAIN. THIS TIME, HOWEVER, YOU WILL HEAR ONLY THREE OR FOUR LINES AT A TIME. AND AFTER EACH THREE OR FOUR LINES YOU WILL HEAR A FEW QUESTIONS. IN THE PAUSE THAT FOLLOWS EACH QUESTION THINK OF THE ANSWER. DO NOT SAY THE ANSWER. THEN YOU WILL HEAR THE CORRECT ANSWER.

What's this building, Bob?--It's our high school, Martin, and school is just out.--You mean the students go home at a quarter to four?

13. Much of the operation under 6) is simplified if you have a "mixer attachment."

NOW THE QUESTIONS:
WHAT DID MARTIN WANT TO KNOW? (pause) HE WANTED TO KNOW WHAT KIND OF BUILDING IT WAS.
WAS THIS AN ELEMENTARY OR A HIGH SCHOOL? (pause) IT WAS A HIGH SCHOOL.
AT WHAT TIME DO AMERICAN HIGH SCHOOL STUDENTS GO HOME? (pause) AT A QUARTER TO FOUR, OR FIFTEEN MINUTES TO FOUR.
NOW LET'S LISTEN TO THE SAME EXCHANGE AGAIN.

The above three lines of the dialog are transferred once more. Now that the learner has been challenged by the questions he will be eager to find out what he may have missed or failed to understand.

NOW LET'S HEAR WHAT ELSE THEY ARE SAYING.

Yes, and there are the buses waiting for them.

etc. The next three or four lines of the dialog are transferred and will be followed by questions and answers on the content as above.

NOW LET'S HEAR THIS SAME EXCHANGE AGAIN.

Yes, and there are the buses waiting for them.

etc. The entire two minute dialog is thus presented in small parcels to the learner for listening-comprehension without translation. Now that the learner has heard each line several times and understood the gist if not the details of the dialog, he is instructed:

NOW YOU WILL HEAR BOB AND MARTIN AGAIN. THIS TIME THERE WILL BE A PAUSE AFTER EACH UTTERANCE THEY SAY. REPEAT WHAT BOB AND MARTIN SAY. IMITATE THEM AS WELL AS YOU CAN.

What's this building, Bob? (pause)
It's our high school, Martin, (pause)
and school is just out. (pause)
You mean (pause)
the students go home (pause)
at a quarter to four? (pause)

NOW REPEAT AGAIN. THIS TIME EACH UTTERANCE WILL BE LONGER.

What's this building, Bob? (pause)
It's our high school, Martin, and school is just out. (pause)
You mean the students go home at a quarter to four? (pause)

NOW REPEAT AGAIN.

Yes, and there are the buses (pause)
waiting for them (pause).

etc. The next four or five lines are presented for repetition in short but meaningful utterances.

AND NOW, REPEAT AGAIN. EACH UTTERANCE IS LONGER.

Yes, and there are the buses waiting for them. (pause)

etc. The entire two minute dialog is thus parceled out on tape B with pauses for student repetition, first in short and then in longer utterances. To transfer the section with the longer utterances, rewind to starting point. With a little practice and a well-working instantaneous pause button this is no problem. The pauses for the short and longer utterances should be marked with a red and blue hash mark respectively on the text of the source material.

AND NOW LET'S LISTEN TO BOB AND MARTIN FOR A LAST TIME.

The entire dialog is transferred once more. Now that the learner has heard, understood, and said the entire dialog, he is ready to read and write the material. Here is the parting message:

AS YOU LEAVE THE LAB, PLEASE PICK UP THE TEXT OF THIS DIALOG WHICH WE HAVE MIMEOGRAPHED FOR YOU. YOU WILL FIND IT ON THE TABLE NEXT TO THE EXIT. YOUR ASSIGNMENT IS TO READ AND COPY THE ENTIRE DIALOG AND TO BE READY TO TAKE DICTATION ON IT WHEN WE MEET AGAIN IN THE CLASSROOM. THIS IS ALL FOR TODAY. DON'T FORGET TO CLOSE DOWN YOUR STATION. GOODBYE TILL WE HEAR EACH OTHER AGAIN. END OF PARCELED UNIT, LIFE IN THE UNITED STATES SERIES, CONVERSATION NUMBER 5.

IV. SELF-EVALUATION PRACTICE

Self-evaluation practice gives the learner the opportunity to compare his speech habits (patterns and pronunciation) with the perfect model he has imitated. In order to clarify the value of self-evaluation practice, it is important to distinguish between simultaneous and delayed listening.

In simultaneous listening the student repeats the model while speaking into an activated mike, and hears himself through his earphones subjectively, that is, with his inner voice distorted by bone conduction. Moreover, he is engaged in four tasks: listening to the model, trying to imitate it, listening to himself, and attempting to memorize as much as he can.

In delayed listening the student listens to his recording at a later time. He now hears himself objectively, that is, he hears his voice as others hear it. Now he is absorbed in one task only: trying to discover the imperfections in his speech habits by contrasting his utterance with the immediately preceding model.

The two processes might be compared to what happens when a football player fumbles the ball during a game. If the game has been filmed, the player can later watch himself on the screen, concentrating his attention on where and why he made his mistake, and the movie can be repeated as often as necessary.

The foreign language student who can listen to his own performance after the performance is in much the same position: he can concentrate on identifying his errors, and this is the first step toward self-correction.[14]

It must be emphasized that the greatest benefit from self-evaluation practice is derived when the learner has had ample practice with the material he will be recording. If he is asked to record and play back patterns that are new to him, his pronunciation and fluency will be quite imperfect and this will undermine his self-confidence instead of increasing it. While self-evaluation practice may be an important and vital part of language learning, it should be used judiciously and sparingly.

It is suggested that purchasers of laboratory equipment who cannot afford a playback facility for each student do, however, buy a fair number of recorders and make certain that the activated headsets are electronically compatible with these and other items. In this way, student speech can be recorded for examination or self-evaluation purposes in groups of six or eight, easily accommodating the whole class during one period. At the same time, a complete laboratory can gradually be developed if desired, with no waste of equipment.

The only exercises that should be used for self-evaluation practice are mimicry-memorization practice. The self-evaluation practice of the phrases presented in mimicry-memorization can be made an integral part of the cumulative review discussed above and can be used as a further reinforcement of already learned patterns. Under such a system the student would record and listen back to each group of sentences four or five weeks after they were first introduced. By this time his mastery of each sentence should be nearly perfect and the self-evaluation will boost the student's self-confidence.

How much time of each laboratory period should be devoted to self-evaluation practice? One point to remember in answering this question is that for every three minutes that the student records himself one must allow

14. For further information on the pros and cons of recording and playback, see Audio-Visual Instruction, September 1959, special issue entitled, "What Do We Know About the Teaching of Foreign Languages?" and, William N. Locke, "To Record or Not," MLJ, December 1960.

another three minutes for the time needed to listen to himself.

In general it might be suggested that not more than 20 per cent of the laboratory period should be spent in self-evaluation practice. (The 20 per cent includes the time needed for recording and listening back.) It is also suggested that the self-evaluation practice be made the last activity of the student in a laboratory period that offers all four practices (Listening-Comprehension, Mimicry-Memorization, Creative Practice, and Self-Evaluation). When placed as the last item on the program the student will not have to interrupt other activities if he wishes to listen back to himself more than once or go over one or two passages several times. Furthermore, by placing the self-evaluation practice last, the teacher creates motivation which will sustain the learner's interest toward the end of the period. The motivation results in part from the natural desire to hear one's own voice and in part from the student's desire to obtain immediate tangible results from his efforts. He will want to hear himself in order to evaluate how he has performed in comparison with the model.

Note. An effective way of convincing a beginning student that practice makes perfect is to have him record in the first two weeks a short passage which he has not practiced before. This recording is filed. About five weeks later after thorough practice, the student records the same material. When he hears and compares his two performances he will surely be proud of his improvement and return to his task with vigor and enthusiasm.

These are but a few of the many types of exercises that can be offered in the language laboratory. But whatever the exercise may be, it is important to keep in mind that the prime objective is always the rapid and automatic execution of responses which will foster learning by listening and imitation, by analogy rather than analysis, and by practicing the language rather than studying it.

Summary of Do's and Don't's for Language Lab Practice

1. Use only materials intended for oral communication.
2. Whatever the learner says should be a complete utterance and in the target language.
3. Each lab period should preferably include listening-comprehension, creative pattern practice and mimicry-memorization practice.

4. When the learner is required to "respond" always provide the correct response for self-correction.
5. Each exercise within each practice should be no longer than five minutes.
6. Visual clues and pictorial stimuli are of great value as long as they do not contain any writing.
7. Do not let the learner see in written form what he is hearing until he has mastered it by ear alone.
8. Never let the learner say anything in the beginning stages unless he has had ample opportunity of hearing it first.
9. All materials for creative pattern practice should first be presented in class.
10. Do not devote more than a very small fraction of the lab time to Self-evaluation (record and playback).

Learning Activities in the Classroom

Although we have assigned to the language laboratory the main task of developing the learner's audio-lingual skills, this does not mean that the laboratory is the only time and place for active practice in the spoken language skills. Speaking and hearing should likewise form the core activity of the classroom. The difference, however, is that while the function of the laboratory is to train the learner in the mechanistic phase of language learning which is necessary before the purposeful use of language can begin, the classroom is the place where the mechanistic skills will be put to use and practiced as "live" speech in situations in which the learner's oral production is unpredictable, i.e. cannot be predetermined. Nor need it be predetermined because the "live" teacher is able to provide immediate correction for any mistake that the learner might make.

In other words while the teacher on tape in the laboratory can do the mechanistic phase of language learning more effectively and efficiently than the live teacher in class, it is only the latter who can assist the learner in the application of the thoughtful use of language. Moreover, because in the classroom all the learners can read at the same time without interfering with each other, the classroom should exclusively be used for the

visualization of oral materials practiced in the lab or the reading of materials which will never be used in the lab. That is to say, then, that oral activity in the class may be based both on oral or written materials.

Types of learning activities based on oral materials (i.e. learners have no text)

1. Instructor introduces new patterns and structures that will later be practiced in lab. The presentation should include hearing; repeating in full choral and partial choral groups, and above all individual repetition. The presentation should be limited exclusively to the "Perception Phase" of the pattern drill, that is the "listen-and-repeat" phase. The "Creative Phase," that is the "stimulus-and-response" phase should be relegated to the laboratory.

2. The learners "act out" in teams the situation dialogs practiced and memorized in the lab.

3. The instructor "activates" the patterns practiced and assimilated in the lab by means of self-propelled chain drills (learner-learner, learner-teacher, teacher-learner), reversed roles, directed dialog etc..

4. Instructor gives five-minute talk on topic in which he uses circumlocutions and other devices if he notices that learners are not understanding.

5. Instructor develops listening-comprehension exercise heard in lab by means of questions which this time are, however, not followed by correct answer: now the learner gives the answer.

Types of learning activities based on written materials (i.e. learners have text)

Note. Reading should only be introduced once the learners have become familiar with the entire sound system in the pre-reading instruction phase of the program.

1. Instructor evaluates comprehension of reading assignment done at home. Since the basic principle is that reading is not to be comprehended in terms of its restatement in English, translation is not acceptable. The instructor should ask questions on content and the learner answer. Great care must be exercised that the questions asked "feed" the learners the necessary structures and that they will include only structures and vocabulary

appropriate to their level of learning. Learners should be made aware of the fact that a short, correct answer is better than a long, incorrect one. The purpose of the questions is not to elicit linguistic creativity, but to check on how well the learners have understood the reading assignment. One-word answers are often all that is needed. Another device for evaluating the learners' reading comprehension of a home assignment consists in the multiple-choice answer, the true-and-false system and the quoting aloud of parts of the assignment and asking such questions as "Who said this?," "Where did this happen?," etc., etc..

It is suggested that reading assignments done at home never be "gone over in class": Those who did their assignment will be bored; those who failed to do it count on doing it in class.

2. Learners "sight read" aloud individually and/or listen to instructor read. After every few lines or a paragraph, instructor helps learners arrive at meaning without reference to English. This can be done through a combination of the following techniques: paraphrasing into easier structures; suggestive questioning; drawings, and other visual demonstrations such as acting out in order to understand a word or an action, opposites, contextual clues and other ingenious devices which make the class an exhilarating challenge to both instructor and learners.

3. Instructor puts learners orally through exercises that will be assigned in writing at home.

4. Instructor gives dictation in class--preferably a dictation which he has taped beforehand--on materials which the learners have heard, said, read and copied. Papers are exchanged for immediate correction when learner's interest is still at high point and so that they do not go home "to sleep" on their errors.

Note. A taped dictation is preferable because the learners cannot slow down the instructor and the dictation can be repeated over exactly the same way. It is not advisable to give it in the lab because the time can be more profitably used to have the learners speak. And it is only in the lab that they can all speak at the same time. In other words, it is a poor practice in terms of investment to use the lab for any activity which can equally well be carried out in the classroom.

SUMMARY OF DO'S AND DON'T'S FOR THE CLASSROOM

1. Teach the entire period as a "cultural island"--if you must use English, then only at the end of the period in the last two or three minutes.

2. Never teach the target language in terms of its restatement in English: translating is not an aid but a hindrance in the learning process.

3. Do not ask or allow your learners to say or write what they cannot yet express correctly: oral and written production should be practiced in doing what is right and not in practicing mistakes.

4. If grammatical analysis is used it should solely be assigned for study outside the classroom. Class time should only be employed for hearing and speaking the language as well as reading, as long as reading forms the basis for hearing and speaking.

5. Learners should ask questions in English only after class.

6. Do not use materials intended for reading in the language lab: the eye can go back if it failed to understand the meaning, but sound is fleeting. Even a native Frenchman would find it difficult to understand an essay by André Siegfried if he merely heard it and few native Germans could follow a short story by Thomas Mann by ear alone.

7. Do not dissect literary works of art for the mechanistic phase of language practice: use them in class for explication de texte.

8. Begin each class with a brief "warm-up" period.

9. Be thankful that the mechanistic part of language practice can be done so effectively in the lab, thus freeing you for creative language teaching in terms of its inherent formative experience.

STEP-BY-STEP PROCEDURES FOR LANGUAGE LABORATORY PLANNING
SOME SUGGESTIONS FOR SCHOOLS AND COLLEGES *

Alfred S. Hayes

It is a fact that many language laboratories have come into being out of something less than a careful consideration of all their implications. In colleges and universities, administrative pressure has sometimes urged a language laboratory upon a less than enthusiastic and sometimes unprepared foreign language staff; in secondary schools, the availability of NDEA Title III funds, and the time pressures resulting from the necessity of integrating local needs with state procedures, have often led to hasty action. The purpose of this presentation is to suggest to both school administrators and language teachers a single sequence of planning procedures which at the same time provides a rapid review of all the problems which require study: administrative, pedagogical, technical. It is obvious that the actual sequence will have to be modified, sometimes drastically, to fit local and state conditions, but it isalso likely that total disregard of any step will operate to the detriment of any program. At a number of points, it seemed that something more than a note or comment was required; where feasible, an expanded treatment has been appended in the form of a short essay.

Although these suggestions must be concerned primarily with equipment planning as it applies to the problems of the first level of language instruction, it should be emphasized that electro-mechanical aids will play an important role at subsequent levels as well.

The presentation is keyed to representative selections from the many fine publications covering various aspects of a field whose literature is growing almost daily. Reference to these books and articles is by the last name of the author, where appropriate.

Bowen, J. Donald, "The Modern Language Association College Language Manual Project," PMLA Vol. 73, No. 4, Part 2, September 1959, pp. 20-26.

Brooks, Nelson, Language and Language Learning, Harcourt Brace and Company, New York, 1960.

+ This paper was presented to the MLA Conference on the Language Laboratory in High Schools, New York, December 18, 19, 1960. The present revision incorporates many of the valuable suggestions made by the participants, and now represents the consensus of that conference. Any inaccuracies, of course, remain the responsibility of the writer.

Delattre, Pierre, "Testing Students' Progress in the Language Laboratory," in Language Learning Today, ed. Felix J. Oinas, Bloomington, Indiana, 1960. (IJAL, Vol. 26, No. 4, Part II, -Publication 14 of the Indiana University Research Center in Anthropology, Folklore, and Linguistics.) Reprinted in Automated Teaching, bulletin of the Rheem-Califone Corporation, Los Angeles, California, Vol. 1, No. 3, Summer 1960, pp. 21-31.

Marty, Fernand, Language Laboratory Learning, Audio-Visual Publications, Wellesley, Mass., 1960.

O'Connor, Patricia, Modern Foreign Languages in High School: Pre-reading Instruction, U. S. Office of Education Bulletin 1960, No. 9, OE-27000, Washington, 1960.

Purchase Guide for Programs in Science, Mathematics, Modern Foreign Languages. Prepared by the Council of Chief State School Officers, with the assistance of Educational Facilities Laboratories, Inc., and others. Ginn and Company, 1959. (A "Supplement to the Purchase Guide" is to be available in early 1961.)

Stack, Edward M., The Language Laboratory and Modern Language Teaching, Oxford University Press, New York, 1960.

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PROCEDURES	NOTES AND COMMENTS
1. The foreign language (FL) staff of the local school or school system must participate in language laboratory (LL) planning, along with key administrative personnel, and such others as may be appropriate in the local situation. This group will be referred to as "the committee."	An LL, as a collection of equipment, does nothing by itself. It is at its weakest when it is merely superimposed on traditional instructional practices. The success of any FL program using electro-mechanical aids involves much more than eventual teacher control of knobs and switches. No satisfactory answer to LL problems can be found without careful reconsideration of course objectives, the nature of language and language learning, and the state of teacher preparation. All of this requires FL staff participation at every turn.
2. An administrative member of the committee should obtain from a number of schools which already have LL's a brief statement of their equipment and maintenance costs. This	Do not consult commercial sources at this early stage. One needs to know merely how many student positions with what equipment (headphones, microphones, recorders) and how many

information is required so that, if there are to be local budgetary restrictions, they can be made known to all concerned at the start. Even very small sums can be spent wisely; elaborate and expensive equipment may prove to be unnecessary and even inadvisable.

different lesson sources ("channels") were furnished for how many dollars. Maintenance costs will normally be 3 - 5% of the total investment.

3. Each committee member should be familiar with at least the basic literature in the field of FL teaching and learning. Suggested readings are: Brooks, especially chapters 2, 4, 5, 8; O'Connor; Bowen; "Modern Foreign Languages in the Comprehensive Secondary School", PMLA Vol. 73, No. 4, Part 2, September 1959, pp. 27-33; various announcements concerning the FL program of the MLA -- see PMLA, Directory issue, September 1960, p. 153 for references.

The pertinent literature is of three general types, with considerable overlap: (1) basic treatments of language, and language teaching and learning; (2) discussions of classroom and laboratory procedures, including the design of materials; (3) technical specifications. Broadly overlapping these three types are commercial brochures and supplementary publications. It is best to avoid the latter at this stage. See below for a statement of general principles which the suggested readings might yield.

Expanded Note to Step Three

There is reasonably general agreement on the following points concerning the first level of foreign language instruction. These principles and procedures are valid without reference to the use of electro-mechanical aids. In practice greater efficiency can be achieved by relegation of a good deal of the highly repetitive work to the language laboratory or its equivalent.

1. Learning proceeds in this order: (1) hearing and understanding (i.e. listening and listening comprehension); (2) speaking; (3) - usually much later - reading; (4) writing. The tendency is therefore away from "book-centered" materials, and toward extensive audio-lingual practice designed to develop a new set of habits.

2. Instruction proceeds in the initial stages without reference to the printed word. For a discussion of the length of the "time-lag" between audio-lingual presentation and drill, and the presentation of the written forms of the same material, see Marty, pp. 75-6.

3. Teaching pronunciation requires extensive hearing of the new sounds, followed by careful drill in their production.

4. Language, here used in the linguist's sense of "talk", is initially presented and practiced in what are called pattern sentences or model

sentences. Each pattern sentence contains a productive structure. Pattern sentences are subsequently manipulated in drills designed to highlight changes in form or order which occur within the structures.

NB. A productive structure is one which, when mastered, will permit the generation of new utterances by substituting new vocabulary, e.g. subject-verb-object in English. The words which can fill the "slots" of such structures may have different forms and orders, depending on the " obligatory categories" of the language, e.g. gender, number, case, agreement, tense, etc.

Those interested in the linguistic principles on which this drastically compressed statement is based, may wish to consult Simon Belasco et al.: Manual and Anthology of Applied Linguistics, a text for language teachers, prepared under a U. S. Office of Education contract. A preliminary version was used in the NDEA summer institutes in 1960, is now undergoing revision, and is to be available for general distribution in the summer of 1961.

5. Pattern sentences may or may not be presented originally in dialogue form. The dialogue has the advantage of immediate situational and possibly cultural appeal. Students enjoy them. They are more easily learned than isolated sentences because of the built-in prompts provided by the situation. The demands on writers of materials, however, are severe, since they must simultaneously achieve situational validity, a manipulable sequence of structures, and, a point sometimes overlooked, a choice of vocabulary which can be cumulatively substituted in previously learned patterns.

6. Pattern sentences are practiced to the point of "overlearning", i. e. until they become reflex-like habits. It remains a challenge to the teacher to keep them from losing all meaning in the process.

7. Drills, called pattern drills or structure drills, following the overlearning of pattern sentences, are of three basic types: (1) repetition drills; (2) drills which practice form and order changes; (3) drills which encourage the generation of new utterances by substituting new vocabulary. Many sub-types are used. See Brooks, pp. 211-215; O'Connor, pp. 18-32; Stack, Chapter III; Bowen, pp. 20-26; Delattre, pp. 18-32. An important principle in generalizing form and order changes is that of analogy: e.g. ich sage, ich arbeite, ich gehe ..... (hence) ich mache.

8. Translation back and forth between the foreign language and the native language is generally avoided.

6. Try to get an agreement with the administration not to buy any equipment on the basis of price alone.

It is dangerously prejudicial to the most carefully planned program to assume that buying LL equipment is like buying any other school equipment. If a projector does not meet specifications, the picture may be a little darker, or the machine may be noisier; it would be difficult, however, to measure the effect on the program of which it is a part. If LL equipment does not meet specifications, it can ruin the program. All manufacturers claim to meet specifications and to supply the best equipment at the lowest cost.

7. Write to a number of the LL companies, requesting their brochures. The magazine Tape Recording (101 Balto-Annapolis Blvd., Severna Park, Md.) October 1960, pp. 34-37, has a nearly complete list.

Steps 7, 8, and 9 are preparation for meaningful participation in Steps 10 and 11 below. Avoid visits from salesmen until Step 14.

4. Now consider as a working principle that it is the function of an LL, or any electromechanical equipment used in FL teaching, to provide frequent, regular practice, using recorded native or near-native models, on materials completely integrated with carefully planned classroom procedures.	See FL Program Notes, PMLA Vol. 75, No. 3, December 1960, pp. v-vi.
5. In order to arrive at practical solutions to the pedagogical and administrative problems a revision of the FL program will entail, it is wise to tackle immediately the problem of making available suitable audio-lingual instructional materials. This is more important than the actual choice of equipment, and the course of the whole program will be smoother if a plan is worked out in some detail at this point.	The materials problem demands an expanded presentation which follows:

Expanded Note to Step Five

Normally, a teaching staff should not be expected to create complete audio-lingual instructional materials, any more than they are expected to write their own textbooks in other areas of instruction. Good materials are in preparation under various auspices. By the fall of 1961, for example, under a contract with the U.S. Office of Education, the Glastonbury Public School System of Glastonbury, Connecticut, is expected to have produced for distribution through commercial channels audio-lingual instructional materials at Level I, Grades 7, 8 or 9, in five languages. On the college level, the MLA-sponsored Modern Spanish was published by the Harcourt Brace Company in early 1960, and can be used as a model for the preparation of similar materials in other languages. But until a much wider selection of good audio-lingual instructional materials in the necessary languages is at hand, some local preparation requires evaluation of available materials: texts, tapes, and discs.

To find out what is available, consult the Materials List for Teachers of Modern Foreign Languages, ed. Douglas W. Alden, New York, 1959, which can be obtained from the Modern Language Association Research Center, 70 Fifth Avenue, New York 11. This publication is now undergoing extensive revision. A more recent list can be found in Tape Recording, October 1960, pp. 39-45. See Step 7, page 4, for address.

Obtain from the publisher sample texts, and, where possible, accompanying tapes or discs. The principles enumerated at Step 3 can serve here as a kind of check list against which one can make a rough estimate of the acceptability of a given text, or determine how difficult it would be to adapt it. Most important in this connection will be an MLA-sponsored bulletin, to be available in the near future, of criteria intended for teachers, writers, publishers of new material, and those seeking to evaluate existing materials. Read also: Stack, Chapter II; O'Connor, pp. 10-18; Brooks, Chapter 10.

Commercial tapes must be evaluated both pedagogically and technically, i.e. for reasonable conformity with the points enumerated at Step 3 and in the cited literature, as well as for sound quality -- ready distinguishability of fricative consonants; naturalness and pleasantness of the voices; freedom from excessive background hiss on the tape. In general, reject tapes which simply reproduce the material of the traditional text verbatim.

The most common practical interim solution will be that of preparing recorded drills for an existing text. See references above and in preceding papers. For a discussion of scripts and recording procedures, read Brooks, pp. 152-155; Stack, pp. 37-38, 46-47; Marty, pp. 155-156.

Of great administrative importance is an estimate of the teacher time required for materials preparation, so that adequate provision for additional staff time can be made well in advance. A rough rule of thumb: multiply the number of lessons or chapters or units in the text under consideration by twenty for an estimate of the number of man-hours required to write drills and record them.

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8. Read the Purchase Guide, p. 26 and pp. 263-271. As commercial brochures are received, each committee member should be assigned one or more for study. Do not worry yet about technical language or comparative specifications.

The purpose of this step is to become familiar with the functions and kinds of flexibility available in commerical packages.

9. Visit one or more language laboratories in action. Ask questions, take notes, and listen to the quality of the sound reproduction at several student positions. Inquire about maintenance problems.

10. Given the approximate costs and local budgetary limitations obtained at Step 3, an answer should be found to this question: Is a commercially packaged LL a suitable answer to the problem of implementing the working principle stated at Step 4?

Three criteria can be invoked to provide an answer. They are enumerated and discussed in the following Expanded Note to Step Ten.

Expanded Note to Step Ten

Three criteria* can be invoked to provide an answer to the question posed at Step 10:

(1) Student coverage: Equipment should be provided to allow at least 20 minutes use per day per student at the first level of instruction. Estimates of equipment needed to provide this coverage should include provision for continued use on subsequent levels, although this allocation depends on the course of local FL program development, and probably cannot be precisely determined at this time. Be sure to allow 10-20% extra units for spares. The criterion of student coverage may dictate the purchase of equipment far simpler than what is usually called a "laboratory." Effective use of good materials can begin with a single tape recorder in each classroom. An intermediate stage, which completely eliminates scheduling difficulties, is a form of what is sometimes called an "electronic classroom." Such an arrangement, which can be much less expensive than a fully equipped laboratory, involves, minimally, equipping each language classroom with a tape recorder and disc playback, plus headphones for each student.

(2) Course coverage: Plans should include access to enough tape recorders to assure adequate testing of oral facility in the FL. If this competence is not tested regularly, students won't work at it. This usually means access to a number of tape recorders equal to 1/4 of the membership in the largest FL class.

(3) Extended coverage: Only if the first two criteria have been budgetarily accounted for, should this criterion be invoked. Since the 20-minute daily requirement above will not usually extend the total time available for contact with the language, provisions should be made for additional contact in the form of "homework" practice. Colleges may satisfy this requirement with library-type installations, i.e. one in which materials are available in all courses on a library schedule. Secondary schools, with their more rigid time schedules, may find a more practical answer in the use of inexpensive homework discs.

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11. Should it appear that the committee will recommend the installation of a comercial LL or similar arrangement of equipment, it should consider at this point the general question of laboratory administration from the point of view of estimating the staff time required. See Purchase Guide, pp.274-275; Stack, Chapter VI, Marty, pp. 175-179.

* These criteria, here somewhat differently annotated, were first presented by A. Bruce Gaarder in a paper delivered at the First Conference on the Role of the Language Laboratory in the Secondary School, The University of Michigan, Ann Arbor, Michigan, October, 1960 and published in Volume IV of the present series of Publications of the Language Laboratory.

12. The committee should now be ready to draw up a tentative blueprint for a practical revision of the FL program. It should include: (1) a brief statement of the pedagogical principles on which the revision is based; (2) a list of courses affected; (3) a plan which will provide the necessary instructional materials; (4) a discussion of staff requirements; (5) a list of equipment, identified by type and function, but without technical specifications.

At this time problems of staff, schedule, space, and budget should be carefully reviewed. Consider the need for budgetary provision for these items: (1) 3 to 5% of the total investment for a maintenance program; (2) operating expenses -- laboratory materials and supplies; (3) professional consultancy; (4) hiring outside speakers to voice tapes if necessary; (5) staff time for materials preparation, laboratory administration, and testing and approval of the completed installation.

See also Steps 13 and 18 below.

Include in the equipment list, especially if the staff is to prepare recorded drills, one professional type tape recorder, at least of the quality of the Ampex 900 series, preferably an Ampex PR-10. Also include one good dynamic microphone, Electro-voice #636 or better.

13. Employ on a short-term consultant basis a recognized authority in the LL field to review the committee's program, to clarify technical matters, to indicate what technical specifications should be stressed, to correlate the program with available equipment, and, if a simple installation is indicated, include technical provision for subsequent expansion. This consultation, or sequence of consultations, should produce a practical plan for an equipment implemented program.

If NDEA Title III matching funds are involved, be sure of the deadline for presenting the local program to the state. Obtain from the State Department of Education or State FL Supervisor the often excellently detailed materials on LL specifications and procedures for purchase; these should be made available to the consultant in advance of actual consultation. He will be familiar with the Purchase Guide recommendations, pp. 274-281. Professional consultancy can, of course, be used earlier in the proceedings, but personnel both qualified and available to take over the whole job hardly exist. Any use of consultants can be frustrating if the staff is not reasonably prepared. One must be able to ask the right questions. The consultant himself should not be commercially affiliated. LL directors and FL personnel at other schools, colleges and universities are often available for short-term service.

14. Salesmen and manufacturers' representatives may now be invited to demonstrate their systems.

15. The committee should see that the purchasing agent, or those responsible for negotiation of the actual purchase of equipment, has read the Purchase Guide, pp. 279-280, as well as the recommendations obtainable from the appropriate State Department of Education.

Refer again to Step 6 and accompanying note. It is recommended that the warranty required take the form of an agreement by the manufacturer to furnish free parts and labor maintenance for one year from the date of completion. Manufacturers should be required to submit information on the kind of service contract they offer after the warranty period, but the school should be free to negotiate a separate contract with a local agency, if feasible, since there are obvious advantages to such an arrangement. The services obtainable under such a contract should not be confused with the need for preventive maintenance. See Step 18 and note.

The invitation to bid should include agreement to a penalty clause, which should exact economic penalties for failure to complete the installation by a specific date. This should be the date on which the installing firm must indicate that the installation is complete, operable and up to specifications; it is at this point that the local plan for final testing and approval should begin to operate. See Step 18.

Note especially the Purchase Guide, page 280, III, D, on the requirement to submit stock models; page 281, A and B, on submitting product samples before opening bids. It is recommended that the bidder be required to install a single, fully equipped booth for this purpose, fed from an actual console, if such is required.

16. The committee should read very carefully the Purchase Guide, page

In making the final selection, the particular brand names recommended by the

280, IV, on 'Testing the Equipment,' particularly IV, C, 5 on 'subjective evaluation.'

17. In the period after the contract has been let, and before completion of the installation, the committee can turn its attention to (a) securing materials, or preparing drill scripts according to plan; (b) considering the question of adequate tests, particularly those of listening comprehension and speaking production. See Brooks, Chapter 12, Stack, Chapter IX, Delattre, pp. 77-93.

18. The most crucial period in the acquisition of a complete installation is the period between claimed completion and final approval, acceptance, and payment. This period should extend into at least a month of normal use in a regular school term. During this period two steps must be taken, both of vital importance for the ultimate success of the program:

a. The performance characteristics must be checked in minute detail.

b. An effective program of preventive maintenance must be devised.

committee should be given the highest priority.

If laboratory recordings are to be made locally, and if a professional recorder and microphone have been included in the equipment list, it would be advantageous to have them available at this time, since some practical recording experience is advisable, both to work up a suitable recording technique and to check the adequacy of the scripts.

These steps are discussed in some detail in the following and final expanded note.

Expanded Note to Step Eighteen

Even if reliable criteria are used in making the original choice of equipment there is a vast difference in technical complexity between a simple demonstration or trial arrangement, and a complete, multiple-position installation. Hence the need for precise checking of details of performance.

Equipment for making instrumental measurements of laboratory performance is seldom available; such measurements are not easy to make even under the best of conditions, and the lack of adequate standards can also, in the practical case, compound confusion. Surprising as it may seem, it is readily possible for a language teacher to learn to check the sound quality of an installation by ear, without any technical knowledge whatever. * It is there-

* Professor Pierre Delattre, in Audio-Visual Instruction for May, 1960, has treated important aspects of this question. Portions of these notes are essentially an expansion of his valuable contribution.

fore recommended that one member of the committee, a language teacher, be made responsible for this final check-out.

Subjective Checking procedures: A tape recording is made, using the professional recorder and microphone, if available, so that the quality of the recording will be beyond question. The recording should be made by someone other than the person who is to be the judge of the quality of reproduction when the tape is played over the language laboratory system. Record three lists of English words, about twenty words in each list, in a random order not known to the listener: (1) a list which contrasts the initial voiceless th-sound, as in thin, with the initial s-sound, as in sin; (2) a list which contrasts initial f with initial s, e.g. fin with sin; (3) a list which contrasts initial voiceless th with initial f, e.g. thin with fin. Leave a space between words equal to the time necessary to repeat the word silently, plus about one-half second. Contrasting pairs should not appear together oftener than chance would dictate. This tape is now played over the system, using a tape recorder or tape player at the console; judging is done from a student position. The listener should be able to determine effortlessly which word is being said, as he takes dictation from each of the recorded lists. Listen briefly at each of the student positions to make sure that the quality of sound is identical in each. If there are recorders at any of the student positions, a further check will be necessary. Record the test tape, played at the console, onto each of the student machines, using the switching facilities provided. Then, working at each booth in turn, record your own voice in the spaces as if you were a student imitating a master tape. Now play back the tape on the student machine and judge the quality as above or, preferably, have still another person judge it. If initial th, f, and s are not clearly and independently distinguishable under any of these conditions, then something is wrong.

An installation may pass these tests and yet have an un-natural, excessively tinny sound. Make another recording on the professional recorder. Two voices, a woman's and a man's, should be used, each reading alternate lines of a passage of connected prose. The woman's voice should be an average soprano, the man's a medium baritone. When played over the system, or recorded onto the student recorders, if the woman's voice sounds natural and the man's does not, the system is not reproducing the lower tones which are characteristic of the male voice.

Quite apart from the faulty characteristics which can cause a system to fail any of the above tests, there can (and usually do) exist other undesirable features which can seriously inhibit the learner. The existence of extraneous noise in the headphones is an almost certain indication that some of the specifications are not being met. Listen for any non-speech noises; they shouldn't be there. The only permissible non-speech noise is a gentle background hiss, which should be scarcely audible beneath the recorded voice. Turn up the volume to a blank spot on the tape until the hiss is quite loud; the voice, when it comes on, should be deafening by comparison. Other kinds of noise are: hum, a steady tone of low or medium pitch which is present all the time when the equipment is turned on, and may or

may not increase with changes in the volume setting; various kinds of static-like noises, called by technicians, depending on the source, "AC hash," "frying" or "grid whine"; a metallic ringing or echoing sound, called "microphonics"; "crosstalk," the name given to the appearance of an unwanted voice or voices in the background of the program. It is not uncommon for two or more of these noise types to produce an annoying jumble of extraneous sound in the background of the recorded voice.

Read the Purchase Guide, page 280, IV for procedures for checking mechanical features. It must be emphasized that it is entirely irrelevant what the causes of any of these un-wanted phenomena may be. Cause and cure are for the installing firm to determine; it is the teacher's responsibility to point out the difficulties, and to insist that they be corrected.

Preventive maintenance: The basic components of no equipment presently available were originally designed with the service requirements of the language laboratory in mind. In such service they will receive more use in a month than they were designed to furnish in a year. A service contract frequently provides only emergency service, which, by definition, implies a breakdown, with its attendant frustrations. School or student help can readily be trained to provide preventive maintenance, which is the key to continued high quality mechanical and electrical performance.

Probably the most vulnerable points are these, all in the tape mechanisms: all rubber or rubber-like surfaces ("idler wheels," "capstan rollers");vital non-rubbersurfaces are the "capstan" itself, the metal rod which drives the tape by squeezing it against the "capstan roller," and the recording and playback "heads." All these surfaces require daily cleaning with an alcohol cleaning agent such as Shellacol (not carbon tetrachloride!).The recording and playback heads are cleaned more readily with special cleaning agents recommended by the manufacturer. If these vulnerable points do not receive frequent attention, the sound quality will deteriorate badly, and mechanical operation will become more and more erratic.

Potential electrical failure can often be spotted by scheduled periodic critical listening to the sound available at each student position. Listen for the fricative consonants, and for the appearance of extraneous noises of the kind described above. Deteriorating sound at any point can then be brought to the attention of the manufacturer or service representative before it becomes a serious problem.

A detailed schedule of preventive maintenance should be worked out, showing what is to be checked, how often, by whom, and what the procedure is. The manufacturer or his agent should be able to supply this information, but it must be pointed out that they are sometimes understandably reluctant to discuss details of maintenance in advance. One

can often do better by having a local service agency, one which does extensive service on high fidelity sound equipment, look over the completed installation and point out the proper maintenance procedures to whomever will draw up the maintenance schedule. Such a service agency may or may not know anything about language laboratories as such, and their technicians may be surprised at insistence on high quality reproduction of speech. But they will be entirely familiar with the kinds of maintenance problems which will inevitably arise, since they are common to all types of recording and playback equipment.

The sound quality and reliability of language laboratory equipment in operation throughout the country ranges from excellent to completely unacceptable. Those who have visited many laboratories, however, must consider that the average installation exhibits a kind of technical mediocrity which is inconsistent with the expenditure of effort, time, and money involved. This mediocrity stems in part from equipment hastily chosen and hastily approved, and in part from entirely avoidable deterioration due to lack of preventive maintenance procedures. Our students deserve better.

PLANNING AND OPERATING A LANGUAGE LAB* OR AN ELECTRONIC CLASSROOM IN A HIGH SCHOOL

A DOZEN DO'S AND DON'T'S

1. DO hire a consultant (not employed by a lab equipment manufacturer), to help you plan, evaluate bids, do the final checking of installed equipment.	1. DON'T try to do it yourself; planning a lab requires as much knowledge as planning a school and a radio station.
2. DO define your teaching objectives first and then choose equipment that will implement them.	2. DON'T leave the planning entirely to administrators or A-V specialists, who may know little about foreign-language teaching.
3. DO see at least three different types of successful installations in operation before you decide on your equipment.	3. DON'T plan a lab for use by everyone (FLs, English, shorthand, speech); this will result in confusion and frustration.
4. DO follow the instructions and guidelines (pp. 26-28, 263-287) in the Council of Chief State School Officers' Purchase Guide (Ginn and Co., 1959) and its Supplement (Ginn and Co., 1961).	4. DON'T forget that a lab is no stronger than its weakest component, mechanical or human.
5. DO arrange your seating and equipment with provision for viewing as well as hearing and speaking.	5. DON'T accept inferior sound; it should be free of extraneous noise, and as natural and full-ranged as a live voice.
6. DO write exact specifications into your contract and accept delivery as completed only when the equipment tests up to specifications and functions smoothly for a full month and when there are adequate provisions for servicing.	6. DON'T forget Murphy's Law of Electronics: Anything that can go wrong... will.
7. DO build an expandable and flexible lab, to handle future increases in demand and new improvements in equipment and methods.	7. DON'T overlook the alternative of electronic equipment in each foreign-language classroom instead of a single lab.

* "Lab," as used here, may refer to any installation of foreign-language teaching equipment.

8. DO provide for regular preventive maintenance, with an annual budget of 3% to 5% of your total initial cost.

8. DON'T forget to budget for tapes, discs, and other expendable equipment.

9. DO plan for short lab sessions; 20 minutes of active daily use is the ideal.

9. DON'T expect all your equipment to function all the time; provide 10% to 20% spare parts or use only 80% to 90% of capacity.

10. DO insist that the lab work be an integral part of the foreign-language course.

10. DON'T impose the lab program on unwilling or unprepared foreign-language teachers; start with one beginning course taught by an enthusiast, make it a success, then add other courses one at a time.

11. DO urge each teacher who is to use the lab to study the growing literature on the subject and take a workshop course.

11. DON'T expect the foreign-language teacher to teach and operate the lab at the same time; hire a technician to assist him.

12. DO cut in half the teaching load of the lab director and allow released time for all teachers who prepare lab materials.

12. DON'T expect the lab to reduce the teacher's work; it will increase it, redistribute it, re-orient it, and make it more effective.

These lists were assembled from suggestions made by participants in two conferences on the language laboratory planned by the Modern Language Association under contract with the U.S. Office of Education and held in New York on 27-28 November and 18-19 December, 1960. The participants: Jeannette Atkins, Dora Bashour, Genevieve Blew, Remunda Cadoux, Pierre Capretz, Vincenzo Cioffari, Guillermo del Olmo, Frederick D. Eddy, Mary Finocchiaro, Evangeline Galas, Donald Hamlin, Elaine Hardie, C. Cleland Harris, Alfred S. Hayes, Elton Hocking, Joseph Hutchinson, Robert Iglehart, Emile Jalbert, Sylvia Levy, William N. Locke, Sarah Lorge, A.T. MacAllister, Gustave Mathieu, F.R. Morton, Anna I. Nolfi, Earle S. Randall, A.K. Shields, William J. Smither, Edward M. Stack, Donald D. Walsh.