

THE EVOLUTION OF THE LANGUAGE LABORATORY Changes During Fifteen Years of Operation

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The information used in this report is based on an interpretation of responses to a lengthy questionnaire distributed in April 1976 to a representative group of schools and universities.

The Language Laboratory (LL) has now had at least fifteen or twenty years to prove its usefulness to the teaching profession. The concept is simple — to use recorded authentic voices and programmed materials so that students may have extended opportunity for practice outside the classroom. The impetus of the NDEA funding allowed the electronics industry to supply the hardware to do this, and increasingly complicated wiring mazes intervened between the recording and the student, developing into arrangements for monitoring, switching dual-track recording for student self-evaluation, dial access, automatic testing machines, and other refinements. The federal funds available in the 1960s enabled nearly all schools and colleges to install language laboratories; the diversity of electronic arrangements defied efforts at standardization of equipment, hence of methodology.

Termination of the federal support with the expiration of the NDEA caused a sudden drop in the number of new LL installations, a decrease in emphasis on electronic support for teaching, and unfortunately, an end to the helpful Institutes which provided training in the techniques of LL usage (among other topics).

The purpose of this investigation is to determine what the course of the LL has been since the end of federal financial support. It was to be expected that the termination of funds and instructional support would result in decreased usage; but at the same time, technical progress in the field of electronics presents teachers with new and nearly irresistible opportunities for audiovisual reinforcement of instruction. The responses to questionnaires returned from the directors of laboratories widely distributed geographically and representing institutions of all sizes and types (public and private) confirm these expectations to a great extent.

Before presenting a detailed evaluation of the responses to the questionnaire, I will give a summary of the things that have changed or not changed appreciably:

There is little or no change in the following:

1. Modes of operation. Library-type operation predominates by a slight margin over broadcast-type operation. A combination of these modes exists in those not exclusively one or the other.
2. Source of software (tapes). The textbook publisher remains the main source of recorded language materials used in the LL; only two labs indicated large-scale production locally.
3. Methods of encouraging attendance. Most labs that do check on attendance use mechanical (rather than intellectual) checks on work done; roll-call, time-clock, sign-in sheets.

Changes over the past few years are notable in the following:

1. Compact cassettes are replacing reel-to-reel equipment rapidly. The convenience and audio quality of modern cassettes is the main consideration in 60% of the LLs queried for shifting to this equipment.
2. Videotape material is rapidly gaining favor as the availability of videotape recorders and players becomes more general and the price becomes more favorable. Student booths may now add the visual dimension by having a TV monitor and videotape playback machine installed, eliminating the tape deck for audio only.
3. Widespread use of the LL idea. Other departments have discovered the efficacy of the laboratory concept, and are using it on a regular basis. In many cases this usage has resulted in the separation of the laboratory from the FL department, and its establishment as a university-wide facility.
4. Computer interface is in its infancy, but is being used regularly in a few large universities in their LL.
5. Administrative change. In over $\frac{2}{3}$ of the LLs, a faculty member is no longer the executive administrator of a laboratory. These laboratories have managers or directors who are non-academic; full-time librarians and technicians are commonly used, without academic qualifications in languages in many cases.
6. Repair (as well as maintenance) is predominantly in-house: the institutions utilize electronic skills available in the LL or in the other departments or service branches of the university. Reliance on outside service personnel or on merchants has, of necessity, been reduced to a minimum. Self-sufficiency is the objective.
7. Laboratories have become independent of departments of language in slightly over half of the institutions responding. They have become independent services with such names as **Learning Laboratory**, **Information Retrieval Center**, **Audio Learning Center**, **Media Center**, and the like, reporting directly to a Dean, a Vice President, or other authority above the departmental level.

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This administrative development is the result of the greatly increased usage of the laboratory concept by many other departments (Item 3 above).

These are the aspects of the present-day state of the laboratory in which stability or change is most evident from a study of the responses on the questionnaires submitted by laboratory Directors.

The LLs fall into three distinct broad classes: the SuperLab, the Complacent Lab, and the Decadent Lab (not, of course, officially accepted terminology).

THE SUPERLAB. The SuperLab never missed a beat when the federal funding ceased with the expiration of NDEA. It continued flourishing, and even expanded into larger modernistic quarters (even new specially-designed buildings), added closed-circuit TV, Videotape facilities, large production studios, computer interfaces, dial-in facilities for students in dormitories, and numerous other refinements. The administration is mainly non-academic, and there are full-time engineers, technicians, and tape librarians. A professor may be titular head of the installation. Only a handful of very large affluent universities are in this category. Innovation and progress is the keynote.

THE COMPLACENT LAB. The Complacent Lab has remained much as it was when first established under federal assisted funding, and it is operated under one assigned faculty member with the help of student assistants. This laboratory has maintained aging equipment fairly well, added new components as the budget allows, and kept up its library of publishers' tapes. About 80% of laboratories are in this category. Stability is the keynote.

THE DECADENT LAB. The decadent laboratory has the original equipment which is now obsolete and partly unusable. Teachers who never were very enthusiastic about it are glad they don't have to use it. The frustrated teacher assigned as Director has an inadequate budget and little co-operation. About 1% to 5% of laboratories appear to be in this plight. Retrogression.

LABORATORY PERSONNEL

At the outset of the 1960s rush to laboratories, the burden of supervising and administering the laboratory usually fell to one member of the teaching staff. Although the entire department had planned the electronic complexity of functions (aided and abetted by a dealer eager to satisfy the most bizarre of pedagogical whims), the Director suddenly found him/herself alone after all the excitement of installation had died down. Alone to wonder why things didn't work, to call vainly for help (Baal didn't answer); to cajole teachers and students to try the new machines. Alone to explain that the machines would not do the teaching after all, and that they merely provided practice on what the teacher had done.

Alone to apologize for the fact that the laboratory meant **more effort** on the part of the teacher, not less effort, if advantages were to accrue from the laboratory. (Teachers would have to spend time listening to tapes, thinking of ways to take advantage of that material in class; preparing audiolingual tests, etc.) The Director had a difficult and time-consuming job, sometimes recognized by administrators who reduced his teaching load a bit to compensate.

Now **who** is taking care of all that electronic gear, cataloguing and issuing tapes, scheduling laboratory time for teachers and students, threading tapes, telephoning the repair main, erasing pencil marks from the booth surface, and doing the rest of the myriad duties of the LL? Now, some fifteen or twenty years later, is it still an overworked teacher? No.

An interesting change has taken place. In nearly two-thirds of the laboratories queried, **non-academic personnel** have replaced that teacher-director, allowing him/her to devote full time again to teaching. A new managerial class has arisen within the Ivory Tower: that of the director without a degree in language, but with certain skills in audio-visual work or in electronics. These directors usually have non-academic clerical assistance in addition to the almost universally used student assistants.

In further tribute to the complication of electronics, full-time electronic engineers were on the laboratory staffs of about a third of the LLs replying to the questionnaire; two universities had several engineers on full-time assignment to the laboratory. (The advantage of placing mechanical administration and operation in the hands of non-academic personnel is clear: teachers can devote full time to their teaching duties, while routine "housekeeping" is done by specialists in electronics.)

Full-time librarians were employed in about 1/5 of the laboratories, often doing double duty as secretary or clerk. Large laboratories tend to have extensive libraries of materials on many topics and in many languages.

Student Assistants were used in every laboratory polled. Their service was rated excellent in most cases. Directors pointed out the need for careful training, however. Pay ranged from \$2.05/hr. at one institution, to \$3.75 an hour at a Canadian university. The range is as follows:

Rate	No. of Schools	Percentage
\$2.05 — 2.15	4	13%
2.20	9	30%
2.30 — 2.35	8	27%
2.50 — 3.00	6	20%
above 3.00	3	10%

Rates quoted are generally starting rates, with graduated increases given for length of service.

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In laboratories where the Director is in fact a teacher — in $\frac{1}{3}$ of the laboratories — the question of a reduced teaching load as compensation for time spent administering the laboratory is not well defined. The answer to the question was often omitted; when the answer was given, it was in terms difficult to tabulate, being in terms of hours in some cases, in terms of “normal load” in others. Fifteen out of seventeen academic directors reported some reduction in teaching load, and the reduction varied from 3-10 hours. Those stating the reduction in terms of “load” reported a reduction of $\frac{1}{3}$ load (1 case) and $\frac{1}{2}$ load (1 case). Six directors indicated a reduction of teaching load, without saying how much. In general, it appears that a reduction in load is standard, but that the amount varies greatly. In a few cases it appeared to be promised but not actually given.

INDEPENDENT LABORATORIES

Are the language departments still in full control of the laboratories? The reply to this is certainly negative in at least half of the labs responding to the questionnaire. Over half of the laboratories are now **independent entities**, departments of their own, reporting directly to a Dean, Vice President for Academic Affairs, and the like (Change 7, page 3). The laboratory must have been a good idea to result in its transformation from a departmental facility to a university-wide service. The independent laboratories, of course, usually have non-academic directors. Among the departments reported to be making use of the laboratory (including laboratories still exclusively under the language departments) are mathematics, English, history, music, chemistry, anthropology, classics, geology, sociology, education, engineering, speech, business, philosophy, forestry, economics, physics, statistics, and others.

Laboratories have also proved their worth in testing, where the audio and visual components can easily be introduced into tests.

THE REPAIR PROBLEM

Electronic equipment has a disconcerting way of ceasing to function properly at critical moments. The original warranty on much of the equipment has long since expired; or the manufacturer has gone out of the business of making laboratories, and no spare parts are to be found; the merchant who installed it no longer evinces the slightest interest. Fortunate is the laboratory whose commercial links are such that a telephone call results in the prompt arrival of a repair man.

Only about $\frac{1}{4}$ of the laboratories polled indicated a reliance on a commercial firm to furnish repair services. (Routine maintenance is nearly always performed by student assistants.) Schools that relied on outside repair work on call or on service contracts made up 28%; the other 72% of laboratories were **self-sufficient for repairs of all kinds**.

Within the self-sufficient group, 45% (of the 72% total) were able to perform all repairs within the laboratory itself, using the skills of full-time

technicians, or technically skilled directors or assistants. The remaining 27% (of the 72% total) relied on technical assistance outside the laboratory, but within the school itself — technicians employed by other departments such as the audiovisual services, electronics engineering, and the like. No need for reliance on outside service existed.

The 28% of all laboratories reporting that they used outside service facilities said there was no difficulty in arranging payments. Most used open-ended purchase orders, standing repair agreements, or other routine financial arrangements.

MODES OF OPERATION

Three modes of operation existed in the laboratory almost from inception: (a) **broadcast**, (b) **library** and (c) **combination library and broadcast**. No change in these categories seems to have taken place. About $\frac{1}{3}$ of the laboratories polled were primarily of the broadcast type (transmission of the original tape from a central source); another $\frac{1}{3}$ were principally of the library type (individual tapes issued to students); and another third combined the two about equally.

A change to be noted is the increase of home (dormitory) usage of tapes loaned out by the LL. This is to be attributed to the switch to Compact Cassettes that is in general process now. Students can afford to buy a cassette player (not only for academic use, but for personal entertainment — a further inducement), and LLs are willing to lend or dub tapes for students.

When tapes are on loan to students, most laboratories use the honor system; a few secure the value of the loaned tapes by retention of the student's ID card, by a cash deposit, or by accepting a tape of equal value in exchange.

The largest and most affluent universities have added closed-circuit TV, videotape facilities, and computer-assisted instruction.

(Data concerning types of equipment are appended at the end of this report.)

STUDENT USAGE OF THE LABORATORY

Times. Most laboratories indicated generous hours of operation so as to permit students to use the facilities at their own convenience. Only 8% of the universities treated the LL like other classes, scheduling it as part of the student's class schedule.

Attendance. Even though the student may select his own times, most universities feel it important to check up on his attendance. There are two methods: (a) the intellectual method, and (b) the police method. The intellectual method consists of finding out how much the student actually learned in the laboratory, using special tests, laboratory manuals, and evaluation of results by classroom probing. About 40% of the schools used this method.

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The police method of ascertaining physical presence without regard to learning consists of using roll-call, time-clock punching, sign-in slips, and even computer readouts. 60% of the universities that felt it necessary to be sure the body appeared in the LL used the "police" method.

COMMENT: The predominance of the police approach testifies to the lack of adequate motivation on the part of students. It shows a persistent failure of faculties to co-ordinate laboratory practice with classroom performance. With obvious separation of laboratory work from what goes on in the classroom, who can blame students for failing to see why they should spend time and effort in the laboratory?

If such corellation between lab and classroom is to be achieved, it can only be through additional effort and time on the part of the teacher. Not only must the teacher personally hear the tapes assigned to students, but must make use of the material in class, on tests, and in every way possible. Only when the student realizes that the laboratory material is an essential part of the course will he devote the required time to it. An amusing comment was supplied by one director regarding encouragement to use the laboratory:

"... We put emphasis on 'public relations'. The (tape) library is a large room with a lounge area, where students and teachers can drink coffee (the best on campus!), listen to music, read several foreign magazines or daily newspapers, browse, or just relax. We have two parties every year"

PROFESSIONAL ATTITUDES

To what extent do teachers encourage the students to use the laboratory (aside from offering good coffee and relaxation)? The results on the questionnaire were:

- Urge students to use the LL regularly 50%
- Mention the LL, but do not put on pressure 32%
- Ignore the LL most of the time 23%

Distribution of these types of encouragement varies from person to person, of course. One institution reported that 100% of its faculty ignored the LL most of the time.

Interest in the Laboratory. The response to this question was encouraging: **Interest in the laboratory as an accessory to teaching seems to be:**

- Declining 15%
- Increasing** 33%
- Stable 52%

SOME STATISTICS

Number of Laboratory Rooms:

- 1 laboratory room 36%
- 2 laboratory rooms 22%

3 laboratory rooms	11%
4 — 9 laboratory rooms	22%
Electronic classrooms	8%
Usage of Various Kinds of Equipment (of 40 respondents)	
Cassettes	58%
Reel-to-reel	45%
Remote decks	38%
Videotape	20%
These add up to more than 100% because many laboratories have various kinds of facilities, thus an overlapping in the tabulation.	

What Directors would Like to Add to their Equipment

Among items mentioned as desirable additions to existing labs were:

- High-speed cassette duplicator
- Television
- Monitors
- Cameras
- Video cassette equipment
- Closed circuit
- Studio

- More hours
- More cassettes
- Multimedia setup
- Expander-compressor
- Oscilloscope

What is desired is evidently aimed mainly at the expansion of visual dimensions.

Additional Equipment Already Available in Laboratories

Among the items of equipment already available in some laboratories are:

- High-speed cassette duplicator
- High-speed open reel duplicator
- Spectrum analyzer
- Motion picture analysis projector (Athena)
- Short Wave radio
- Rear-screen projector
- Photographic studio
- Computer interface

High-Speed Duplicators in Use, and their Ratings

Brand	Satisfactory	Unsatisfactory
Pentagon (cassette)	5 (1 very sat.)	0
Telex (cassette)	7	2
Wollensak (cassette)	2	0
Infonics (cassette)	2	1
Rawdon-Smith (reel)	2	1
Ampex (reel)	5	0

SUMMARY

Overall the prospects for the language laboratory appear good, not oustandingly bright. Most laboratories are stable, accepted as a part of the teaching apparatus. Teachers, however, have not yet fully integrated the laboratory and classroom work; and in spite of lip-service, many teachers do little to motivate students to take full advantage of the laboratory.

The visual component of audio-visual is on the increase, and schools that have used visual reinforcement in their language training have been most enthusiastic — and student reaction has been unexpectedly favorable. Laboratories with adequate budgets are moving towards this goal.

The laboratory concept is now seen as beneficial not only for languages, but for all disciplines. As a result the laboratory is becoming an independent entity, serving a whole school, and with a non-academic staff of administrators and technicians.

Having been the pioneers in the systematic application of sound recordings and the laboratory concept to the learning process, language teachers face the challenge of keeping abreast of the technological progress.

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| Auburn University | University of North Carolina-CH |
| Boston College | North Carolina State University |
| Brigham Young University | Phillips Andover Academy |
| University of California (Berkeley) | Princeton University |
| Culver Military Academy | Purdue University |
| Dartmouth College | Rice University |
| Davidson College | Rutgers University |
| University of Delaware | University of Southern California |
| Duke University | University of South Florida |
| East Carolina University | Stanford University |
| Emory University | University of Texas at Austin |
| Foreign Service Institute
(Department of State) | University of Texas (El Paso) |
| Harvard University | University of Virginia (Charlottesville) |
| Indiana University | Virginia Military Institute |
| University of Kansas | University of Waterloo (Ontarlo) |
| University of Maryland | Wayne State University |
| University of Michigan | College of William and Mary |
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