

REJUVENATING THE LANGUAGE LABORATORY

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ABSTRACT

It is our purpose in this paper to encourage teachers to more fully utilize language laboratory systems by investigating the relationships between Context and Background Knowledge, Individualization and Learner Characteristics, Feedback and Continuing Assessment, and Focus and Sequence. The primary goal of this paper is to foster an eclectic and integrative approach which will allow the full potential of newer language laboratory systems to be utilized. It is our wish to have teachers aware of the alternatives available and encourage hardware, curriculum, and materials designers to utilize the language laboratory more fully.

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Historically speaking, the technical advances in audio recording and playback systems allowed the language laboratory to come into its own at a time when the audio-lingual system was reaching a peak in popularity. Audio-lingual adherents believed that mastery of a foreign language was equal to the mastery of the sound system and the grammatical structures of the target language (within a minimal vocabulary). This

belief, coupled with the behavioristic belief that all learning is habit formation, and the teaching methodology's heavy reliance on drills imposed a heavy influence on the design of language laboratories and used in language laboratory lessons.

Therefore, from this historical perspective, it is not difficult to understand that the decline in the popularity of the audio-lingual method relates to, and is a primary cause of the recent decline in the popularity of language laboratory usage and the unwillingness of teachers to commit themselves to effectively use the currently available language laboratory systems.

It is our purpose in this paper, then, not only to persuade a new generation of teachers to utilize the presently available language laboratory systems, but also to encourage experienced teachers to use their influence to help language laboratory designers to incorporate more flexibility into the systems that they design so that various

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teaching methods and techniques can be utilized.

To utilize the language laboratory more fully, it is necessary to understand how basic principles of teaching underlie language laboratory use. We assume that teachers are familiar with these principles in general, but feel that the relationships of these principles in connection with language laboratory use are not fully appreciated. The related principles which we feel are most critical to effective language laboratory use are Context and Background Knowledge, Individualization and Learner Characteristics, Feedback and Continuing Assessment, and Focus and Sequence.

Therefore, we will explain these terms and their relationships as they pertain to the usage of the language laboratory.

RELATED PRINCIPLES OF LANGUAGE LABORATORY USE

The relationship between CONTEXT and BACKGROUND KNOWLEDGE

Context can be thought of as the setting in which learning takes place. In simple terms, the more senses and associated memories that are activated and retrieved in the learning process, the more the students' prior knowledge can be utilized. In general terms, the richer the context (i.e. context-enriched interaction), the easier learning will become. To use Cummins (1986) analogy, the more difficult the material, the more context that will be needed by students. Without sufficient and varied contextual clues, students must rely upon linguistic clues within the text.

Context can be defined as the background knowledge needed to comprehend the text. Context can be increased by adding visual images (pictures, slides, video), explanations, background material to make concepts or vocabulary new to the students comprehensible. For example, imagine a TV news reporter reading a script twice.

The first time, it is read with only the reporter's face displayed on the screen. The second time, it is read with still pictures and diagrams displayed in the background. If our reasoning is correct, the second reading will be easier for the foreign listener (or reader) to comprehend. In the same way, conversation over the phone is more difficult than in person because there is no visual context. All humans learn by associating new material with their prior knowledge, sorting and categorizing things based on what they have learned in the past. This use of prior knowledge to comprehend new material is known as transfer.

An element of transfer that is vital to communication (spoken or written) is the understanding and production of discourse. One theory useful in explaining how language transfer relates to context is Minsky's "frame-theory" (Brown et al. 1983) in which it is proposed that our knowledge is stored in memory in data structures, called "frames," which represent stereotyped situations (other variations of this theory are also referred to as scripts, scenarios, or schemata). He suggested that we build a mental representation of discourse using information from the encountered discourse together with relevant knowledge from past experiences. Such "frames" quickly allow us to identify certain kinds of discourse such as a fairy tale or a conversation between a teacher and a student. Thus, the interpretation of discourse is based to a large extent on the single principle of analogy with what we have experienced in the past. Furthermore, this concept of an underlying structure (discourse) may be the key to analyzing and producing longer chunks of discourse, enabling one to interpret a lengthy text and complete a complicated conversation or composition. The language laboratory is well suited for presenting discourse structures as complete texts (i.e. complete conversations or writings) can be presented with the underlying discourse structure analyzed using language laboratory

equipment.

We are all sensitive to such things as situation, setting, and the participants' social position (i.e. mother, boss, doctor). In foreign language learning, unless it's a completely alien culture, these things are usually immediately recognizable. In communication, some things are assumed to be known to both parties and are not mentioned explicitly because of these assumptions. Some of these assumptions are, however, not known to the students and would only come to light after being seen in a picture or video. Thus, in the use of video material, students can fully utilize their prior knowledge because of the abundance of contextualized clues allowing the students to make more and quicker inferences about the background of the culture, thus comprehending more and sometimes foregoing lengthy explanations and/or supplemental readings.

Here, we see one of the major advantages of the language laboratory over the conventional classroom, the potential to present more cultural context in the form of audio and video material to enrich the background knowledge of the student. This is one of the major handicaps foreign language learners have, the lack of knowledge of the foreign culture and its historical background. (It is a concept applicable to native speakers as well. In E. D. Hirsch, Jr., *Cultural Literacy: what Every American Needs to Know*, it is argued that a basic knowledge of the cultural background is necessary for coherent communication.) To supplement the readings and explanations of the foreign culture, audio and video material can provide the context students need to more fully comprehend their language lessons. To be exposed to how the language is used in its sociocultural setting (in complete chunks of discourse) enables the student to grasp how the language is used appropriately. This capability of the language laboratory to demonstrate sociolinguistic aspects of language,

as well as functional ones, is one of its key advantages.

Another advantage is the capability to present authentic or semi-authentic materials such as TV programs or taped conversations. In this way, students are exposed to language as it is really used, enabling them to visually experience the culture without actually being there. Besides demonstrating sociolinguistic aspects of the language, it may also provide motivation for studying the language. Students will be able to relate their study to human beings that actually exist. (For more discussion on the use of authentic materials, see Stages of Instruction: Developmental Stage.)

The relationship between INDIVIDUALIZATION and LEARNER CHARACTERISTICS

Some learners are more successful in mastering a second language than others. Although the research is not conclusive, differences in aptitude (i.e. phonetic coding ability), cognitive style (i.e. field independence or dependence), attitudes and motivation, and personality are commonly said to be responsible for varying achievement (van Els et. al. 1984). It is not the purpose of this paper to discuss the research on learner characteristics; however, we wish to point out that differences do exist.

These differences in learner characteristics suggest that students:

- learn at differing speeds; some take longer than others, for example
- some students require more instruction and supervision than others
- some students may require more challenging tasks or a different approach to reach acceptable levels of achievement.

In other words, if these propositions hold to be true, a lock-step teaching approach would be ineffective in dealing with student differences. In the conventional

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lock-step class, it is difficult to meet individuals' needs because a teacher aims at one particular level of student and possibly one particular cognitive style. But, by looking at each individual's needs and allowing for individual differences in learning, we can individualize the learning process.

The language laboratory is ideally suited for promoting individualization of learning. Individual booths with audio and video equipment allow for the individualization of learning and instruction. The students confront the material as it is presented by the equipment. Although the instructor pushed the "on" switch and gives instructions, ultimately, it is up to the students to struggle to comprehend the material presented to them. Of course, it may be necessary for the teacher to explain procedures or deal with problems they are having; for the most part, materials used are or can be made self-explanatory, and this enables students to work independently allowing teachers more time for individual explanations of materials and counseling for those students who could benefit from closer monitoring. In the modern language laboratory, students can:

- work at their own pace
- work alone or in pairs or groups
- work with materials suitable to the students level
- receive individual attention
- be accountable for their own performance

Of course, these kinds of classroom teaching strategies and procedures can also be used in the conventional classroom; however, because each student is assigned a booth or station with a cassette recorder, headphones, and sometimes a video monitor, all of which are controlled by and connected to the teachers control panel, the relationships between students and teacher is flexible and changeable. By setting appropriate switches and giving instructions, the teacher can transform the students' relationships from one group to several groups

to pairs or to individuals depending on the task or student needs. Students can work with other students or work alone and the teacher can listen in or monitor. This ability to monitor is what makes the language laboratory so different from the regular classroom. It also makes students accountable because they can no longer hide within the large group. For example, their oral performance recorded on a cassette can be evaluated or graded.

Although there is much flexibility in the modern language laboratory, the teacher must make the lesson's or activity's objectives clear and intelligible. The students should know:

- if they are to work alone or if they work with others
- the amount of time they have
- what materials they are to or can use
- if their work is to be collected or not
- how they are to be evaluated
- what the end objective is (i.e. listen or read, answer questions, write a summary or composition, record a narrative, speech or conversation, or just listen and respond)

These guidelines can also be applied to the conventional classroom but they become even more important in the language laboratory because a major behavioral objective possibility of the language laboratory is to foster a certain amount of student autonomy and accountability. In other words, students are ultimately responsible for doing their own work and held accountable for it.

Enabling students to work at their own pace has several advantages. As mentioned before, we can allow for differences in learning characteristics. Some work meticulously and slowly, others may work more quickly, taking more risks. Some may wish to look up a word in the dictionary and others may wish to ask the teacher a question. This last point is particularly important. By

assigning a task, and carefully giving instructions in the language laboratory, the teacher is freed from maintaining group discipline as students work autonomously with unproductive time held to a minimum, thus permitting the teacher to give attention to the special needs of individual students. Likewise, students feel free to ask the teacher questions while others are working, something many students are reluctant to do in the conventional classroom.

In general, individualization of instruction and learning focuses on:

- the specific needs of each student
- the learning characteristics of each student
- the amount of time or practice needed for completion of the task or teaching objectives by each student

A crucial factor in promoting individualization is the choice of materials. Obviously, materials too easy or too hard would be inappropriate. Taking Krashen's (1983) theory of $i+1$ as an analogy, the material should be just one step above a student's level of acquisition. Although impossible to define, in practical terms, it might result in a score of about 70% on comprehension questions, challenging but not too hard. Another way to gauge difficulty is to ask each student to measure it using survey type questions. We strongly recommend that accurate placement tests to determine what materials students can use and related diagnostic tests to determine their strengths and weaknesses be developed to help teachers and students prepare personalized goals and measure achievement.

The relationship between FEEDBACK and CONTINUING ASSESSMENT

Feedback is a series of responses to students performance which allows students to evaluate their own learning strategies, and their progress toward the main goals of the course. The more and quicker the

feedback the student receives in response to his/her performance, the better progress will be, and the more likely the student will be to analyze errors and adjust learning strategies.

Modern equipment such as individual monitors, a V.I.D. system (Visual Image Display: a video camera transmitting an image onto a screen or student monitor), and response analyzers (a machine which records, analyzes, and provides the correct response as feedback to students' answers for multiple choice and true/false questions) allow for immediate feedback to the students and ease of testing. Interactive videodisc technology (a videodisc used in conjunction with a personal computer) makes it possible now for students to work independently and receive feedback immediately and in large quantities although the lack of software and the high cost of the equipment have made schools reluctant to invest in such a system. Evaluation, then, need not rely upon terminal testing, but it can be based upon a system of continuing assessment, motivating students to achieve on a day-to-day or task-to-task basis.

Feedback is often discussed but actually little attention is paid to it. In terms of learning and teaching, feedback can be defined broadly as the teacher's response to the students' performance, which comes in many forms. The simplest form is giving the correct response to the student's attempt at answering a question. Naturally, students want to know the answer immediately to check to see if their hypotheses are correct. In a conventional classroom, this form of feedback is often delayed for long periods of time, unless the teacher has the students correct their own answers. It's very time-consuming and cumbersome to even administer a short quiz in the conventional classroom, however, in the language laboratory, this feedback process can be accomplished quickly and quite successfully using an analyzer or the V.I.D. in any

skill area. For listening evaluation (and reading), the analyzer is faster than conventional means and the immediate feedback which it gives to the students is stimulating and motivating.

Samples of controlled or semi-controlled answers to composition problems can be displayed immediately for the students on the V.I.D. For that matter, student samples of work can be displayed for all to analyze errors or to praise good work. These are the most obvious examples of feedback. Feedback can be categorized generally in respect to positiveness or length of response delay.

Positive/Negative

- positive response (i.e. reward, praise)
- negative response (i.e. scolding, punishment)
- no response (can be either + or -)

Length of Delay of Feedback

- immediate (i.e. oral response, response analyzer feedback, or V.I.D. feedback after each question)
- short delay (i.e. correct responses given at the end of class)
- long delay (i.e. teacher corrects and hands back later)
- no feedback

There is a rich history of research done on feedback. We can summarize it by stating that :

- for effective learning, feedback should be immediate and positive
- in general, the longer the delay in reinforcement (feedback), the higher the error ratio and the lower the motivation (D'Amato 1977).

We are not advocating a Skinnerian form of behavioral modification using machines. What we are saying is that the learning process can be augmented or improved by the use of new technology, particularly in the case of feedback.

In many cases, students may feel that the learning process is a secret process in which they submit their answers, not able to know the correct answer until all the students have submitted theirs to the teacher who collects them, spends time to correct all the papers, and returns them usually after a delay of time. When the students finally receive their corrected papers, they must recall what the lesson was about and try to understand their mistakes. If this feedback is delayed up to week or more, it is not difficult to see that its value as feedback is diminished. In retrospect, what such an exercise becomes is not an attempt to provide relevant feedback, but rather a provocation to cram for a quiz or test.

If feedback is not delayed and irrelevant, then we can consider it as an integral part of the learning process. Instead of just a provocation to study, we can look at feedback as:

- a review of material
- a measure of student performance
- an opportunity for error analysis
- a motivating stimulus

The last two items are most overlooked by educators when considering feedback. In order for students to properly evaluate their errors, the results of the exercise should be immediate, just when students are concentrating on them. A delay in feedback would diminish the value of such because of short-term memory loss and the fact that students would have their minds on something else. In most cases of delayed feedback, students seem to show more interest in the grade results than in the contents.

The basis for providing immediate feedback, in terms of classroom management, is a system of continuing assessment. On a

day to day basis, students' work can be evaluated giving them the feedback that they need. It may be necessary for teachers to modify class procedures so that activities can be completed, including correction, discussion of errors and collection of papers if necessary. The main point behind this system is that we do not rely upon several large tests to evaluate students but upon daily work. By using the analyzer and V.I.D., we can give the students immediate feedback, motivate them to concentrate and achieve, and encourage them to analyze their own errors.

The relationship between FOCUS and SEQUENCE

The relationship between focus and sequence reminds us that each teaching unit must have at least one main objective and a series of secondary objectives. The main objective provides the focus; and, the

ordering based on prerequisite secondary objectives (secondary objectives which must be completed in order to accomplish the main objective) provides us with the sequence of instruction. Furthermore, the secondary objectives are each presented to the students by stages of instruction which are repeated for each secondary objective. The main objectives, secondary objectives, and stages of instruction have an interrelated and hierarchical structure.

Focus and sequence are not limited to the language laboratory. All teachers make lesson plans; but, in a language laboratory, the ability to add or change broadcast material is severely limited and so the need for lesson and materials planning is particularly vital when using the language laboratory.

The following illustration should make the relationship between focus and sequence clear:

Focus and Sequence		
Focus	Main Objective	(end objective - what the students will be able to do at the end of the unit)
	Secondary Objectives	(prerequisite objectives needed to achieve the main objective)
Sequence	Stages of Instruction	
		Presentation Stage
		Comprehension Stage
		Practice Stage
		Preliminary Evaluation Stage
		Evaluation Stage

To further illustrate what we have said so far, we will go through the stages of instruction one by one and try to allow the reader to understand how all the concepts we have discussed so far are related and how they can be implemented in the language laboratory

Presentation Stage

In the initial stage, it is best to take advantage of what the students already know, their prior knowledge. When introducing material, the teacher might relate it to the students' lives and experiences, underlining the significance of the material, how it relates to something they have done, or how it will help them in the future. It is necessary to consider the students' background knowledge and try to anticipate what concepts or facts the students are not familiar with. The use of pictures, video or audio material will enrich the context and will facilitate comprehension. The teacher may choose to demonstrate his/her point by stating directly or having the students discover it indirectly by eliciting questions and answers in response to audio-visual stimuli.

It is also important that the students be given, as clearly as possible, an explanation of the goals they are to reach or the tasks they will be asked to complete. One or more learning strategies (i.e. what to look for or how to go about it) could also be suggested and possibly discussed in order to prepare students to be as autonomous as possible.

Comprehension Stage

Here, the students are exposed to the material and asked to comprehend as much as they can. Usually, awareness of the secondary objective is made by carefully selected questions, pictures, matching, ordering, and many other types of exercises. By utilizing the multi-sensory capabilities of the language laboratory, comprehension is not limited to linguistic comprehension (i.e.

listening for meaning or hearing phonemic differences); but, can be substantially expanded to include comprehension of sociolinguistic concepts (i.e. functions of language) and culturally determined behavior (i.e. non-verbal communication).

At this point, feedback is essential for both students and teacher in order to gauge comprehension of the material. Again, we encourage teachers to take advantage of the language laboratory's equipment by using a variety of audio-visual materials to enrich the context. This enriched context allows students to use prerecorded materials in a variety of ways and for a variety of purposes including the investigation of sociolinguistic aspects of communication while working at their own pace.

Practice Stage

After comprehension is reasonably assured, students can be asked to do related exercises on their own such as additional reading, listening, composition, or speaking (reinforcing the secondary objective). At this point, practice should be individualized as much as possible (see Individualization and Learner Characteristics). Students can work individually, in pairs, or in small groups to complete the exercises or tasks. Answer keys or some other form of immediate feedback can be given to motivate, encourage error analysis, and allow students to check their own progress.

In addition to the normal way in which materials are presented, there are other possibilities which promote individualization of study. One, which we will call the "vertical method," is to rewrite materials into different levels of difficulty. For example, a story appropriate to the average level of the class is rewritten using more redundancies and simplified syntax and vocabulary so that the lower proficiency students can understand and gain confidence; and, a more difficult version may be written to challenge the higher proficiency students. Another method, which we call the "horizontal

method," would provide a series of practices such as comprehension, vocabulary, pronunciation, and grammar from which a student could choose two or three in order to work on the areas where they are weakest. Yet, another method, the "graded method," would provide a series of materials ranging from low to high proficiencies, enabling students to begin at a comfortable level and "grade up" as they progress.

Preliminary Evaluation

After sufficient practice, the performance of students can be checked. This not only allows for more feedback but ensures that students are encouraged to concentrate upon the task at hand. Also, the teacher can have some idea of student mastery of the material and see where students are having problems. Diagnosing student problems is an important responsibility of the teacher; the teacher can then prescribe some practice to reduce the incidence of error. Most often, experienced teachers can anticipate student problems and incorporate corrective material at the presentation and practice stages. Much of the evaluation can be done by the students themselves. Having students check each other's performance promotes error analysis, analysis of strategies used, and a cooperative atmosphere.

Developmental Stage

This stage allows for freer and more creative use of the language. Here, students are asked to use the material they have learned to complete an activity or task of some sort, such as a role play, essay or narrative, problem-solving activity, or game. At this stage, it is recommended to encourage the students to be as autonomous as possible.

Although the use of authentic materials is controversial for low proficiency students because of the inability to control the level of difficulty, it could be possible to use appropriate segments of authentic materials (i.e. movie or TV segments, or native

informants) as role models or resource materials. From these, students can acquire some background knowledge of the culture which will enable them to recreate native-like communication in simulations. In such simulations, they will use the language they have just learned, recreate the situation, and review the overall discourse structure (including written discourse). Knowledge of the discourse structure is necessary to recreate any form of communication such as a conversation (i.e. negotiating a plan to meet which would include various functions of language) or a composition (i.e. a letter of apology or expository composition).

Evaluation Stage

Finally, student performance can be evaluated. Evaluation comes in many forms depending on the skill areas and objectives. The evaluation could be a multiskilled one in which students are asked to both write and speak, or listen and write, or read and speak. The evaluation should be consistent with the teaching objectives (giving a writing test if only speaking has been practiced is not consistent). It may be that giving the students a "regular" test can provide the students with the feeling that the course work is valid and that the teacher is holding them responsible for their work. This psychological aspect may be more important in motivating students (albeit extrinsically) than in determining grades. Of course, feedback on the outcome should be delayed as little as possible. In many situations, it is possible for the students to evaluate themselves or one another which is an effective way to provide immediate feedback.

CONCLUSION

In this paper, we have tried to convince users of the language laboratory to more fully utilize the language laboratory's potential. We feel that the concepts explained in this paper are uniquely suited to the language laboratory. We encourage

teachers to utilize the concepts we have explained and improve their language laboratory lessons. We feel that this can be done by enriching context and therefore taking advantage of students' natural ability to transfer the knowledge they have learned, that is, to relate their new learning experiences to their background knowledge. Also, we encourage teachers to individualize the learning process more by providing more opportunities for students to be autonomous and freeing the teacher for individual instruction and counseling. Equally important, the amount of feedback should be increased as much as possible since it is so essential to the learning process. Likewise, a system of continuing assessment should be implemented to assure that students are conscious of their achievement and progress, encouraging them to be productive on a day to day basis. Furthermore, we encourage teachers to focus their lessons by constructing clear teaching objectives and sequencing the instruction in a rational manner. In short, we have tried to alter the conventional conception of the language laboratory, from one in which the language laboratory is an expensive substitute for teacher and textbook, to one in which the language laboratory is used to enrich and enhance the learning process.

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