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ABSTRACT

The role of the language laboratory in current language teaching and learning is discussed. Four main aspects of audio technology and its relationship to language learning are covered: (1) the technological aspect: what a language lab is and what kinds of labs are available in Ireland; (2) the research aspect: what kind of research is being conducted in language labs, how they are and could be used, and in what ways they benefit the language learning process; (3) the pedagogical aspect: how teaching and learning in the language lab must change in order to become part of a communicative language teaching approach; and (4) the practical aspect: what has been done in the Language Centre in St. Patrick's College, Maynooth, with particular reference to the Irish language and a course called "Dushlan" for first-year university students. The main argument throughout the discussion is that audio technology has not been used to its full potential so far and should not be ignored in the face of the increasing popularity of computers and video technology. Contains 10 references. (LB)

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# Using audio and the language laboratory

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## Introduction

This paper will concentrate mainly on the role of the language laboratory in language teaching and learning today. The term audio in the title is meant to cover one type of technology and is used as distinctive from video but does not mean that use of audio equipment excludes the use of video or indeed computer equipment with it.

Four main aspects of audio technology and its relationship to language learning will be discussed:

- 1 The technological aspect: what a language lab is and what kinds of labs are available in Ireland.
- 2 The research aspect: what kind of research is being carried out today into language laboratories, how they are used, how they could be used, and in what ways they benefit the language learning process.
- 3 The pedagogical aspect: how learning and teaching in the language lab must change in order to become part of a communicative language teaching approach. This part will also point to the fact that a language lab should not be just a teaching device but a teaching and indeed a learning aid.
- 4 The practical aspect: what we have been doing in the Language Centre in St Patrick's College, Maynooth, with particular reference to the Irish language.

The main argument running through the paper is that the technology has by no means been exploited sufficiently so far.

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**The technological aspect: what is a language lab?**

There are two main types of language lab, audio-active (AA) and audio-active-comparative (AAC).

AA labs are made in Ireland by MTL Electronics and have been installed mostly in secondary schools. They consist of a teacher's console, which includes two audio cassette recorders with a copying facility, a microphone, and an intercom system which enables the teacher to communicate either with one student or with the whole class, and any number of student positions with headsets. Students in such a lab can listen and repeat. Older models can be updated and a video facility incorporated.

AAC labs are more sophisticated. They comprise a teacher's console from which all or some of the booths can be controlled, and any number of student booths controllable by the students themselves when required. The students' cassette recorders have a teacher's or source track, which is recorded from the console and which the student cannot erase, and a student track, which records from the student's microphone and which the student can erase at will.

AAC labs also include many other facilities, of which the most useful are: the intercom facility, which enables the teacher to communicate with one student, a group of students, or the whole class; the fast-copying facility, which enables the teacher to copy a pre-recorded program at speed; and the conference facility, which enables all students in the lab to communicate with one another without having to take their headsets off. Of course, these labs also include the possibility of using external program sources such as slides or video programs, which can accompany whatever exercises the teacher has prepared on audio tape. The three main manufacturers of AAC labs selling in Ireland are Tandberg (Norway), ASC (West Germany), and Sony.

Despite the fact that so many people in the 1970s thought language labs were going to disappear, the technology has been developing all the time and labs seem to be here to stay. When first designed at the beginning of the 1950s, language labs worked with reel-to-reel tapes (the first lab was designed by Al Hayes at Louisiana State University). In the 1970s they changed markedly with the invention of the audio cassette, miniaturization of components, and the computerization of controls. Today, Sony manufactures language labs with digital systems (i.e. discs similar to compact discs) instead of cassettes, video monitors and computer keyboards all

included in the student booth.

Such technology, of course, can only be expensive, and this brings me to the first question teachers or school principals are asking themselves today. Language labs cost a lot of money: are they worth it? The question cannot be answered simply but I hope to begin to answer it in this paper.

### **The research aspect**

Language labs were originally devised to be an integral part of audio-lingual and audio-visual teaching methods. The emphasis that these methods put on near-native pronunciation as well as on acquiring the basic structures of the target language gave a central role to repetition and structure drills, and the language lab was the ideal place to do this type of work. Indeed, most audio-visual courses published at that time included a set of exercises to be done in the lab - we all remember *La France en Direct*, for example. While these exercises were for the most part well-designed, well-graded and well-controlled, teachers often found that students who could perform quite well in the constrained situation of the lab had difficulties using these structures in an informal situation outside the lab.

Today, materials produced for language teaching rarely mention that there could be such a place as a language lab, and very little work is being done on its usefulness or efficacy. It is striking, for example, that while *Un Niveau Seuil* (Coste et al. 1976) gives great importance to recorded authentic materials, it never mentions a language laboratory.

Let me summarize what I have found in the last ten years concerning language learning and the language laboratory.

In 1981 a conference took place specifically on that subject in Montreal and the proceedings were published in the journal *Speak* (vol. 4, no.3/4).

In 1983, E. Kleinschmidt and P. Neubold carried out a survey among approximately 2,000 teachers in 300 schools in Germany. Their aim was to show that most teachers were unaware of the kinds of exercises one can do in a lab, that their knowledge of the technical and didactic functions of the lab was insufficient to help foreign language learning, that they did not know at which stage of the teaching process they should use their lab, that the integration of lab work in the teaching process caused difficulties, and finally that teachers did not have enough information about the kinds of materials available for use in a language laboratory. The answers to their questionnaire showed that the most widely used types of exercises were

imitation exercises and pattern drills, then listening comprehension exercises. Exercises involving free production of speech were almost never used as teachers said they did not know how to use them. On average teachers mentioned the name of two programmes for the lab, and no programme was mentioned more than ten times, which meant that a lot of materials were available but teachers were not well informed about them. Generally, teachers were found to restrict themselves to course books, which is probably true not only of language teachers. Kleinschmidt and Neubold concluded that the language lab was not used to its fullest potential and that teacher training courses should include a training program for working with the language lab. However, most teachers said they felt that the curriculum was too tight to include language lab work and other media in general.

In 1984 Pergamon published a book by Philip Ely entitled *Bring the Lab Back to Life*, which gives examples of different types of exercises that can be done in the lab. His aim is to introduce some spontaneity into the lab via stimulating and enjoyable activities and even to promote communication between students. The exercises are presented in three parts, covering first activities requiring accurate listening comprehension with a simple or graphic response, then activities requiring accurate communication of comprehensible information, and last, activities in which the students must give appropriate and spontaneous responses to a series of stimuli. The book presents very many stimulating exercises and should be on the shelves of every language lab.

In 1985 David Bedford carried out a survey of students' attitudes towards the language lab at the Southern Illinois University of Carbondale and found that students had an initially positive attitude in the first semester which became negative in the second semester. Bedford stressed the importance of designing new and stimulating materials for the lab.

The only article I have found looking at the role and place of the language lab in a third-level language course is by Gordon Doble in a CILT publication entitled *Oral Skills in the Modern Language Degree* (1985). Two interesting diagrams show different ways in which activities taking place in a lab can be integrated with other language learning activities.

### **The pedagogical aspect**

The first part of this paper described briefly the technological revolution

which has taken place since the 1970s in the design and conception of language labs. A similar revolution has taken place in the field of methodology: the four-phase structure drills based on behaviourist conceptions of language learning have been replaced by an emphasis on using real and authentic language in a meaningful context. We have also changed our attitudes towards the learning process - the learner's needs are taken into consideration; towards the teaching process - receptive activities are developed at an early stage and teachers are expected to tolerate errors; and towards language, which is no longer viewed as a universal and impersonal phenomenon but as an instrument of communication which is individual, personal and necessarily situated in a social context.

Furthermore, if one considers the four main skills involved in language learning, a shift took place in the 1960s from the importance of reading and writing to the primacy of listening and speaking. But as Hans-Eberhard Piepho pointed out in the talk he gave in Dublin in January 1989 (Piepho 1990), most adult and adolescent learners find reading in a second language fairly easy, writing less difficult and demanding than speaking, and listening difficult and frustrating.

It seems to me that this is the very point where language labs have a role to play. Listening and understanding a second language in a learning context can take place with a teacher, with a tape (audio or video) in a classroom, in your home or car or with your walkman, or sitting in a language lab. Obviously, it is not where you listen which is important, but how you listen and what you listen to.

The first thing to stress is the importance of listening. Listening is what we do most frequently in our daily life. There is not total agreement among researchers, but it seems that on average we spend 50% of our time listening, 25% speaking, 15% reading and 10% writing. Weaver (1972) writes:

For several centuries we have devoted our study and teaching to the expressive part of the communicative process which we use only half as much as we use the receptive skills. Most people are unaware of the amount of time they spend listening. After all listening is neither so dramatic nor so noisy as talking. The talker is the centre of attraction for all listeners.

There are many reasons why the listening activity has been neglected, one of them being that listening has been wrongly considered to be a

passive activity. Indeed, we still don't know really how we listen and understand as these are very complex phenomena. And since the 1970s many new methods have been based on listening, for example, Total Physical Response or the methods based on Suggestopaedia. However, it is not my purpose to discuss these approaches here.

Going back to the language lab, it seems to me that it is an excellent facility for promoting the activity of listening. Why? First of all, because each learner has an individual headset the sound quality will be better than with a tape recorder used in a classroom. If you hear better, you can listen better and have a better chance of understanding. Also, I believe that sitting in a language lab, students will focus their attention much better than in a classroom. Thirdly, and most important perhaps, the language lab can answer individual needs, i.e., students can work at their own pace, even at their own level, and this is certainly not possible with a single tape recorder or even several tape recorders in a classroom.

For the teacher, finding materials for students to listen to will not be difficult as much is available on the market, and recordings from the radio are easily copied. *Authentik* provides excellent recordings five times a year in the European languages principally taught in second-level schools in Ireland.

However, listening is not sufficient: the teacher must have some way of assessing whether students understand what they are listening to. Exercises must be designed to help students to understand the authentic recording and test their comprehension. Most communicative courses produced today include listening comprehension exercises which can be done in the classroom or, better, in the language lab - *Themen* and *Deutsch Aktiv Neu* for German, *Le Nouveau Sans Frontières*, *Salut!*, and *Archipel* for French, among others. Most of these exercises are based on authentic recordings where the speed can often cause difficulties to learners and doing them in a lab would enable each student to listen as many times as necessary.

But listening to and understanding the target language is not sufficient. Speaking the language is the main aim of most language learners and one can object that the language lab is not an ideal environment for real communication or group work. But at no stage have I suggested that all language teaching should take place in the language lab. The language lab should be considered as one of the available resources for language teaching and should have a particular place in a language teaching pro-

gram, perhaps for pre-communicative activities or for testing what has been taught previously. Another advantage of the language lab is that it can be used at all levels of language learning, including beginners.

Finding pre-recorded materials to encourage learners to produce the target language in the language laboratory is much more difficult. There is a scarcity of available material which may reflect a lack of interest in such technology as it has turned out not to be the panacea that most people wrongly thought it would be. Another reason is that producing such materials is extremely time-consuming and costly if it does not answer the needs of many learners.

Among the materials I know and have used myself, one example of an excellent course is *Prenez la Parole* (Clé International, 1982). The course is designed to be used in a classroom or in a lab, and comprises a book and an audio tape. The book contains illustrations and information without which it is not possible to do the exercises. This visual support is excellent for presenting learners with a real situation in a clear context, which will be the basis for role-play activities in the lab (see Unit 6, for example). Among other kinds of activities involving speaking which can be done in the language lab are pre-communicative activities. Again there are many examples in *Prenez la Parole* (see Unit 1, for example).

*Le Français chez les Français* is another course that I have found works very well in the lab with students of French. It was produced in Germany and all the exercises are based on authentic recordings made in France. It is more advanced than *Prenez la Parole* - I use it with second-year university students.

If one considers the different learning strategies involved in second language acquisition, the distinction made by Dulay and Burt (1981) between three phases of communication is useful for designing different activities not only for the classroom but also for the lab. Dulay and Burt distinguish between 1) "one-way communication", for example, reading or listening to the target language, 2) "partial two-way communication", when people answer by nodding their head or using their mother tongue, and 3) "full two-way communication", when speakers must listen, understand and answer in the target language. Examples of exercises involving these three phases of communication are:

- 1 Discrimination exercises such as: "Mark whether you heard *Il est français* or *Elle est française*".

- 2 True/false exercises which can also include cultural information, as well as a phonemic distinction, for example: *Tous les ans a lieu à Cannes un festival de cinéma - réponse: vrai; Tous les ans a lieu à Cagnes un festival de cinéma - réponse: faux.*
- 3 The examples mentioned above from *Prenez la Parole*.

How these different types of activity are conducted in the lab will depend on whether an AA lab or an AAC lab is available. Types 1 and 2 can easily be done in an AA lab, whereas type 3 is done more usefully in an AAC lab, where students can record their responses, compare them with a possible answer, and evaluate their performance.

Depending on the circumstances, a lab can be a private study resource to which students have free access for different types of language learning activities, or a sophisticated teaching aid at the service of a tutor. In the first case, one should be reminded that students are capable of working on their own and should be expected to do so, particularly at third level. The language lab can then be a source of self-help, offering a wide variety of authentic materials and graded exercises.

The role of the tutor in the language laboratory will depend on the kind of materials used (some exercises cannot be done without a tutor) and on the attitude of the students. I have often noticed how the "call teacher" facility is under-used by most students in the language lab and feel they should be trained to use it more often.

Just as in the communicative classroom, the teacher should not be at the centre of the learning experience, sitting as a spy controlling students, but should play the role of "facilitator". Error tolerance should be shown so as not to inhibit students, particularly when speaking. Pronunciation need not be corrected unless it prevents understanding, and most of all, speaking exercises should not all demand "set" responses; some spontaneity must be possible in the lab although it is not easy to achieve the necessary balance between the repeated "correct answer" and a "free approach". As Ely (1984) asks:

Why is it that, in many lab situations, human beings are herded into little compartments and turned into parrots? ... Why should they invariably have to say what their machines want them to?

As well as encouraging spontaneity, exercises in the lab should be stimulating and enjoyable. *La vie en France*, a very old oral comprehension

course designed for the lab in 1971, is non-authentic, but it has a civilisation content and is full of humour, little songs, puns and jokes, and teachers and students equally enjoy working with it.

At this point I should like to mention music. It is very easy in the lab to introduce songs between exercises or at the beginning or end of a program. Having recently listened to some "accelerated learning" courses where dialogues are recorded with a musical background, I have wondered about applying the same idea in the lab: instead of having just a song at the end of the tape, putting instrumental music as a background to the exercises.

### The practical aspect

In the Language Centre at St Patrick's College, Maynooth, we have been trying to put into practice most of the ideas presented above. While our courses in French and German are mostly compilations of pre-recorded materials, we had no such choice for Irish and have spent the last two years putting together an Irish course which we have called *Dúshlán*. This is a comprehension course for post-Leaving Certificate students - in other words, first-year university students - and is specifically designed for use in the language lab. However, it could also be used with a tape recorder in a classroom or by adult learners wishing to improve their knowledge of Irish on their own.

*Dúshlán* is based on authentic recordings of Irish speakers from the various Gaeltachta and of other (non-native) speakers of the language. The recordings were collected over one year and transcribed in their entirety. Some of them were very kindly supplied to us by Raidió na Gaeltachta. They present a wide variety of topics, ranging from current affairs to various aspects of contemporary life, both urban and rural, and were chosen to appeal to young people.

The *Dúshlán* project originated from a questionnaire which was circulated to all undergraduates studying Irish at Maynooth. An analysis of the answers given in the questionnaire highlighted specific topics which were of interest to the students, and this helped to determine the nature of the material to be used in the compilation of such a course.

The design of *Dúshlán* recognises the separate needs of each of the three main dialects - Connaught, Ulster, and Munster - by providing separate course materials for each of them. The same approach and structure were used for each set of materials, but because they are based on authentic

recordings, the three sets differ considerably in their content. Each set of materials comprises a total of seventeen units, lasting on average twenty minutes each. Each unit begins with an introduction in Irish which presents the speaker and summarises the subject of his or her conversation. The interview itself is then given in three parts, each part being followed by three or four short exercises. These exercises are very varied and range from global comprehension to filling in blanks, multiple choice, and substitution and transformation drills. They were designed to improve aural and oral skills, to increase vocabulary, and to develop an awareness of grammatical difficulties. The exercises are based on the authentic recordings, which means that they are contextualised; and the questions or tasks are meaningful, so that they should help to develop learners' communicative ability. Many exercises involve the students actively by giving them the opportunity to talk about themselves and their own experiences.

*Dúshlán* also recognises the need to promote a greater understanding of the various dialects. This is why we included an exercise in which students are asked to recognise, then reproduce in their own dialect, sentences they have heard in one of the three dialects in the original interview.

We are now in the process of recording the exercises and will be implementing and evaluating *Dúshlán* during the coming year. Some of the units were evaluated, however, as the course was being compiled. Finally, one point should be made about producing language materials whether for the language lab or for other technologies, and that is the amount of time (it has taken us the best part of three years), energy and imagination such a project demands. In other words, people responsible for allocating funds to purchase whatever kind of equipment, should not forget that funds should also be made available for the production of materials without which the technology is obviously useless.

### Conclusion

The role of the laboratory as an educational instrument will only develop with the progress of research because it is not the technology but the pedagogical use of the technology that determines the effectiveness of the lab.

Language labs in the past have been misused and under-used, and this is the main reason for their unpopularity and questionable efficacy. Nonetheless, I believe that language laboratories have a definite contribution to

make to second language learning in the 1990s and after, particularly if they are enriched by video and computer technology and if they function as resource centres that supplement classroom work and offer exposure to real language through authentic audio and video documents.

Materials used in language laboratories are the key factor in determining the effectiveness of the lab as a tool to aid second language acquisition and learning. The task facing users of language laboratories is to develop imaginative and pedagogically sound materials and then to test them: to evaluate their effect on students' attitudes towards the lab, and above all to evaluate their effect on the language proficiency of learners.

Finally, the language laboratory should be integrated into a clear methodology or teaching approach, where it can have an essential part in the whole rather than being a bit "added on". This obviously implies a clear understanding of what the language lab can contribute to the learning process. More research needs to be done before we can formulate a general theory for the use of language labs.

The aim of this paper was to convince teachers and learners of second languages that, if given the chance, the language laboratory could make a larger impact than at present on second language learning and could earn its keep more significantly. Let's just hope that the attractions of computers and video will not divert attention from it.

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