The Language
Laboratory
and Language Learning
JULIAN DAKIN

The Language Laboratory and Language Learning

Julian Dakin

Longman

ACKNOWLEDGEMENTS

Author's Note

Without Libby Joyce and Dorothy Forrester this book would never have taken shape. Miss Joyce, a Lecturer at the University College of the West Indies, first made me wonder what structural drills actually practise, and whether they practise structures at all. Miss Forrester, a Lecturer at Doncaster College of Education, and formerly a teacher of French at Boroughmuir School, Edinburgh, first showed me that there were meaningful alternatives to structural drills in the language laboratory.

I am also indebted to a number of former students at the Department of Applied Linguistics, Edinburgh, who have inspired me by producing types of drills I had never seen before. In this paper, I have reproduced some of these drills as examples, indicating in the footnotes the identity of their original designer.

Nirupam Chatterjee has checked my Bengali examples, and Sachin Ganguly has helped to improve my understanding of the exercise of verification and falsification.

The style and format of many of my own illustrative materials owe a great deal to the example of Anthony Howatt, my colleague at Edinburgh, whose advice and encouragement have greatly improved every successive version of this paper. It was he, too, who first introduced me to Novish, and who helped me to describe it.

The style of the text has considerably benefited from suggestions and criticism made by my father and by Peter O'Connell, the director of the School of English Studies in Folkestone.

<div align="right">

J. D.

Calcutta, June 1969 and Edinburgh, September 1971.
</div>

Preface

Julian Dakin did not live to see his book through the final stages of publication. He had, however, passed the manuscript to a number of his friends and colleagues for their comments and suggestions for improvement. Some of these comments had been returned to him and he had added his own notes to them. Provided his intentions were clear and small changes could be made without altering the main body of the text, I have tried to incorporate them. He would I am sure have wished to acknowledge the assistance of his colleague at Edinburgh, Dr Gillian Brown, his father Mr S. Dakin and Miss Dorothy Forrester, mentioned in his own Acknowledgements, for their valuable and perceptive comments on the final manuscript. There is no doubt that he wished the book to be published and considered it ready. Though he might perhaps have altered the emphasis and balance of certain passages, he would I think have made no changes of substance or content. But any errors arising during the final stages of publication and printing are of course mine.

<div align="right">

A. H.

Edinburgh, 1972.
</div>

Contents

The role of the language laboratory

> *Oh, let us never, never doubt*
> *What nobody is sure about!*
> HILAIRE BELLOC

The aims of this book

This book is concerned with relating two themes: the uses of the language laboratory and the nature of language learning. In recent years language laboratories have spread widely and rapidly. They can now be found in schools as well as in adult education centres. At the same time a large number of books and courses has come on to the market advocating or embodying differing methods of instruction in the language laboratory. Protagonists of one particular method of approach or another sometimes suggest that the general principles of language teaching are clear enough and that their own materials, based on these principles, provide a more effective means to language learning. It is certainly true that the materials commercially available can be used to good effect. But it has yet to be shown that any single course or method of approach is reliably more effective than others. Equally good, and at times equally disappointing, results can be attributed to courses based on different general principles. And although the language laboratory has attained a certain level of popularity among both teachers and students, it is still not clear whether laboratory instruction is more effective than work in the classroom.

Valid principles of language learning, far from being clear and easy to apply, are still for the most part tantalisingly obscure. Far from being well-established, the role and value of the language laboratory has still to be determined. This book cannot resolve these issues for the reader. Its aim rather is to explore them in order to define the limits of our uncertainties. The teacher who does not possess a laboratory may learn something of what he could expect from one. The teacher who already possesses one is shown how he could use it most fully. And, for the teacher who wants to design his own materials, a large number of sample materials are illustrated. The scope of each type of drill or exercise is indicated so that he can create further materials to suit the particular problems of his own pupils.

This book is not a manual of instructions for operating a language laboratory. Various manuals about the selection, maintenance, and technical use of equipment are already in existence. Nor does the book offer the reader a programme of language laboratory work, though two strategies of laboratory use are developed in the final chapter. The aim is rather to present an illustrated encyclopaedia of laboratory teaching tech-

niques. My assumption is that the reader already knows, or can find out elsewhere, *what* he wants to teach his pupils. His interest in the laboratory lies rather in *how* it can further his aims. He is also naturally concerned with *how far* it can further them. To help him make up his own mind about this, the possible limitations of each kind of laboratory technique are exposed at length at the end of each chapter or section.

Finally, the book tries to give the reader the experience of learning in the ways in which it is suggested he might teach. He is given sample lessons in two unfamiliar languages, and the English examples are presented in such a way that he can work through them himself. The language laboratory, as its name suggests, is a place for experiment. And we can try experiments on ourselves as well as on our pupils. By experimenting with our pupils we can find out whether something works as well as we intended it to do. By observing and reflecting on our own problems and failures as learners, we can seek to establish principles which will help us to improve our teaching. Our success in teaching is dependent on our understanding of learning.

This book, then, will switch from looking at teaching materials to looking at learners, and will invite the reader to become a learner himself. For this purpose, it matters little whether he has used a laboratory before or ever intends to use one. Whatever we can learn about learning is of value however we intend to teach. And any teaching materials in this book that capture the reader's interest can be adapted as readily to classroom use as to the laboratory. The availability of a laboratory merely raises the question of where they can be tried out most effectively. For the laboratory offers certain facilities that cannot be reproduced in the classroom.

2 The nature of the language laboratory

These facilities are most fully exemplified in a laboratory in which every student has his own tape-recorder. The tape-recorder is equipped with earphones which enable the student to listen to the material recorded on his own tape without disturbing the rest of the class. Through a microphone he can also record his own voice. He can play back his recording to check for mistakes or to compare his own efforts with a model version already recorded on the tape. There is a connecting channel between the teacher and the student so that the former can listen to what the student is doing and discuss any problems with him without interrupting the work of other pupils.

The effect of the machinery is to isolate each learner from his fellows in several different ways:

1. **Each learner can work all the time.** He no longer has to sit idly while other pupils answer questions or show the teacher what they can do. He can work uninterruptedly either at listening to material on his own tape or at trying to improve his speech.

2. **Each learner can work at his own pace.** He no longer needs to be either held back or out-stripped by the pace of learning of the rest of the class. He can stop the tape whenever he is in doubt, replay each section as many times as he wishes, and repeat each exercise till he is satisfied with his performance.

3. **Each learner can work on his own materials.** There is no longer any need for him to listen to the same materials or do all the same exercises as the rest of the class. He can be given work which matches his own needs and interests.

4. **Each learner is responsible for his own performance.** He is spared the embarrassment of having other pupils listening to all his mistakes. Instead he must learn to correct himself when he goes wrong, and to seek advice from the teacher when he is in doubt.

5. **Each learner receives individual attention from the teacher.**

It is easier to list these possibilities than to exploit them. They present a formidable task to a teacher who attempts to do so. He must have a sufficient amount of material to keep each of his pupils uninterruptedly engaged. But he cannot expect them all to do the same amount of work during the laboratory periods and should adjust any follow-up in the classroom accordingly. In addition to a common core of work which he may want all his pupils to do at some time, he must provide a whole library of ancillary materials for learners with special difficulties or interests. Since he cannot give too much of his time to any single student, he must design the materials so that each can learn on his own with a minimum of supervision. Difficulties, misunderstandings and mistakes which could be dealt with as they arose in the classroom must as far as possible be anticipated or forestalled in the design of laboratory materials. Every step must be planned and recorded in advance.

The laboratory thus frees the student at the cost of tying the teacher. It makes instruction more individual, but at the same time more impersonal. To use it effectively, it must be determined what a student can learn better on his own with only occasional supervision from the teacher, and what requires interaction between the student and the teacher, or between one student and another, and is therefore more suitable for the classroom. We must decide, in effect, what can be planned in advance and performed in isolation, and what should be improvised in face-to-face contact.

3   What can be done in the language laboratory?

Could we, for instance, do all our teaching in the laboratory? Just what would this involve? When we are teaching something new, whether it is a grammatical point or a poem, the "whole" teaching process can be divided into four stages:

1. Presentation

2. Practice

3. Development

4. Testing

We can examine each stage in turn to decide how far responsibility for it could be effectively delegated to the language laboratory.

4 Presentation

A teacher presenting a new grammatical point, for example, can adopt one of two techniques: *demonstration* or *involvement.*[1] In either case he wants to give the pupils examples of the new structure or rule. He can *demonstrate* its meaning by presenting the examples in isolation or, at the most, in contrast with something already known but easily confused. Both the isolation and the contrast are intended to call the pupils' attention to the novelty of the point. The teacher is saying in effect: "Here is something new". He hopes to make its meaning clear by mime, pictures, or translation, or by providing a minimal context.

If he prefers the technique of *involvement,* he will not tell the pupils that he is going to use a new structure, but will slip examples of it into something else he is saying in such a way that it will be understood and accepted quite naturally. The past tense, for example, can be unobtrusively but appropriately introduced in telling stories to the class. The teacher can sometimes even get the pupils to "invent" the structure themselves. A class of children involved in drawing or painting, for example, will sooner or later demand more paper or more paint. At this point, when the demand is freshly felt but as yet unexpressable in the new language, the teacher can slip onto the tips of the pupils' tongues such structures as "I want X", or "Can I have some more Y?".

Demonstration and involvement both require interaction between teacher and pupils.

5 Practice

Having presented examples of the new structure or rule, the teacher must now go on to practise it. This means getting the pupils to produce their own examples in response to some question or cue. The nature of the different kinds of cues that can be used will be discussed in the chapters on drills. What concerns us immediately is that the techniques of practice, as they are practised in the classroom, once again require interaction between teacher and pupils. The teacher listens to what the pupils say, approving or emending, and the pupils have to note both the teacher's cues for the next response and his reactions to the last one. Where there is a breakdown in their responses, the teacher can present the point again or give further examples. He can also provide explanations in the new lan-

guage or, if need be, in the mother tongue. At this stage, and in the next one, a pupil's actual responses are often unexpected or confused. He may have difficulty in formulating the new structure or he may betray that he has misunderstood its meaning.

6 Development

This is the stage when the teacher has to relax control over the pupils' performance. The pupils are set tasks such as telling a story themselves, describing pictures, retailing their daily lives and past or future activities, expressing their own needs and preferences. The successful completion of such tasks calls for the use not only of the structure that has just been practised but of all that has been learnt before. The teacher cannot and should not interrupt the pupils' performance by correcting every single mistake. He can indicate that he does not understand, he can prompt where the pupil falters and he can override him when he pauses for breath, but many slips made in the flow of utterance can only be dealt with later, if at all. The stage of development thus involves its own kind of interaction between the pupil and his audience − the interaction of real conversation − but for the first time the pupil can select the cues to which he will respond. As far as organising and developing his own utterances is concerned, he is largely on his own.

7 Testing

When the teacher comes to formally testing what the pupils have learnt, he must relax control altogether and leave the pupils entirely on their own. This is essential if the test is to be a fair one of what has been learnt, what still needs to be learnt, and what has to be taught again.

8 Stages of teaching and stages of learning

Let us take a closer look at what the pupil is doing while the teacher is busy presenting, practising, developing and testing. In the last two stages, I have suggested that the pupil is increasingly on his own. But surely he is always on his own? We may teach a class, but each pupil has to learn for himself. If we look at the whole teaching process from the pupil's point of view, we can see that it also falls into four stages, each corresponding to the changing intentions of the teacher.

When the teacher presents the new point, the pupil has to *understand* it. When the teacher practises the point, the pupil has to *learn* it. And when the teacher seeks to exploit the newly acquired knowledge, the pupil has to *control* it.[2] As we have seen, any developmental task may call upon all that he has already learnt. In addition, it requires him to express himself not just correctly, but well.

For the pupil, if not for the teacher, testing is a continuous process, co-extensive and co-terminous with everything he does. Each effort to

understand tests his intelligence and his knowledge of the language. Each
effort to speak tests his memory of the rules and his ability to apply them
in response to new cues or new situations. As long as he has the teacher's
attention, he can immediately find out whether he is right or wrong.
Formal tests, however, have little extra value for the pupil, though they
may stimulate him to learn. For a formal test cannot usually be allowed to
give the pupil immediate and detailed information about how well he is
doing.

To summarise and contrast what has been said about the stages of
learning and the stages of teaching, every step in the teaching process
requires continual interaction between teacher and pupil, while every step
in the learning process requires continual effort on the part of the pupil.
We must now ask whether all the teaching stages can be automatized —
that is, taken over by a mechanical device such as the language laboratory.
There is no need to pose the same question about the learning stages. If
learning were always automatic, we would never have any failures.

9 The learner's problems

Some degree of failure is a universal consequence of trying to teach. Our
interest in the language laboratory stems precisely from the hope that, by
allowing each pupil to work at his own pace on his own materials, we may
thereby reduce the margin of frustration and failure. But we will be no
more successful at doing so in the laboratory unless we can first identify,
and then attempt to forestall, the causes of the learner's failures.

We have seen that teaching is a spirally evolving process of presentation,
practice, development and testing, while learning reflects it with its own
progression of understanding, learning and control. The reflection is often
distorted because each step confronts the pupil with a different kind of
problem. At the stage of *presentation/understanding,* there is *the problem
of meaning.* How can the teacher convey, how can the pupil grasp, the
meaning of the new item? On a correct understanding of its meaning
depends the successful application of the item to appropriate situations.
At the stage of *practice/learning,* there is the problem of *remembering.*
How can teacher and learner ensure that the new item will not be for-
gotten when the need for it arises in real situations? At the stage of
development/control, there is the problem of *communication.* How can
the teacher teach, the learner learn, the skill of effective communication in
continually novel situations? Communication is essentially personal, the
expression of personal needs, feelings, experiences and knowledge, in situ-
ations that are never quite the same. And though we may often repeat
ourselves, much of our conversation about even the most mundane matters
is to some degree novel. We hear or produce utterances that we have never
heard or produced before in quite the same form, and which, in conse-
quence, cannot be practised by the teacher or previously learnt by the

learner. "My guinea pig died with its legs crossed", said one eight year old girl in a tape-recorded interview.[3] No teacher is going to present such an utterance as serious material for drilling in the classroom or laboratory. The example simply reveals that we can never anticipate everything that our pupils want to say.

This discussion of teaching and learning stages may seem to have led us away from the question from which we started: What can be done in the language laboratory? But I hope it is now clear that it is not the teacher's problems we must solve in the laboratory but the learner's.

10 The role of the language laboratory

Let us accordingly rephrase the question as: *Can the language laboratory solve the problems of meaning, remembering and communication?*

Some experts think it can handle all three kinds of problem, some only two, or perhaps one. One teacher of Spanish,[4] for example, gave his whole course in the laboratory, using specially programmed materials. Various courses for the teaching of English, French, Spanish, German and Bengali, present new material in the laboratory and practise it there but leave its development to the teacher in the classroom.[5] Finally, several recent British courses for Spanish, German and English use the laboratory principally for practice, rather than for presentation or development.[6]

The common feature of these various approaches is the concentration on practice in the laboratory. The learner is made to repeat or learn by heart selected words, phrases, sentences or conversations. He is also given a variety of structural drills or role-playing exercises which encourage him to manipulate what he is learning. The full range of such techniques of practice is listed in the next section of this chapter. Subsequent chapters investigate how far these techniques of practice are effective in the laboratory. Let us here pause to consider the adequacy of the laboratory in tackling the problems of understanding and communication.

When we present new material in the classroom, for instance, we have the opportunity of watching our pupils' faces, of questioning them, of expanding and renewing our attempts to convey meaning. In the laboratory we can use pictures, translation and explanation for this purpose, but once we have incorporated these into a particular taped lesson, we have no immediate means of amplifying them should unforeseen misunderstandings occur. But pictures can all too easily be misread,[7] explanations misinterpreted, and translations misapplied.[8]

The laboratory is also more restricted than the classroom as a means of development. Though it is possible to communicate something new to the student via the tape-recorder, it is quite impossible for the tape-recorder to react to anything the student says. Only one half of the process of communication can be reproduced. For true dialogue, we need at least two human beings. We do not need a tape-recorder.

II Forms of practice

In this book, accordingly, the laboratory will be considered primarily as a practising device. Material already introduced in class can be revised and learned more thoroughly. The student's understanding of spoken language can also be developed in the laboratory and his control over new material rehearsed in simulated dialogues in which at least one side of the conversation has been fixed in advance. But the principal task of the laboratory must be to help the student learn what has been initially introduced in the classroom. For this purpose there are at least six different forms of practice:

1. Listening
2. Meaningless drills
3. Meaningful drills
4. Comprehension exercises
5. Production exercises
6. Problems

"Listening" is to be distinguished from "comprehension exercises" in that it elicits no overt reaction from the learner. He simply listens to something in the laboratory, as he would listen to a record or to the radio. Listening can be an end in itself, a means of learning something new, and an aid to remembering something half-learnt. "Production exercises" differ from drills in that the former require the learner to produce sentences of differing grammatical type, while the latter prompt only sentences of identical or related structure. A classroom example of an exercise is prose translation; a substitution table is the most familiar form of drill. Substitution tables are also a good illustration of "meaningless drills". Many authors call such drills structural drills, pattern drills, or pattern practice. I am not certain that such drills do in fact practise structures or patterns, and I want to leave this question open for further discussion. What is certainly clear, however, is that they are meaningless. A learner possessing not the slightest knowledge of the language could produce a whole series of correct sentences — if we ignore his pronunciation — from the following "simple" substitution table:

I	have	already	seen	it
You		just	heard	them
We		not yet	read	
They			eaten	

His task, which permits no error, is merely to construct a sentence by choosing one item from each column. Even if we make the substitution table "complex" by introducing items like *he* and *she* into the first

column, and *has* into the second, the learner could get all the sentences right, without understanding the meaning of any of them, provided only that he knows one grammatical rule concerning "agreement" between pronoun and verb. Only when we add vocabulary items like *the book, the record, the film, the apple,* to the last column have we set the learner a task which for its successful completion requires a knowledge of at least one kind of meaning relationship in the language. If he chooses to say, for example:

I have just eaten the record,

or

He has already read the apple,

we cannot correct such utterances without explaining something of the meaning of the words *eat, read, record* and *apple.*

All the forms of practice so far referred to give opportunities for either understanding or producing sentences. Some practise both. Into the latter category must go the final form of practice in the list: "problems". Problem solving is as much a technique of presentation as of practice. An example of a language learning problem that learners of English have to face at an early stage is the use of the two forms of the indefinite article, *a* and *an.* Here the teacher can readily formulate a rule. But he may not be able to communicate it to his pupils, either because he does not know the words for consonant and vowel in their mother tongue or because his pupils, if very young, may not know them either. By a judicious use of example, encouragement and correction, the teacher can nonetheless help his pupils to induce the rule productively in much the same way that young English children do. The art of problem setting lies in selecting and presenting examples in such a way that the learners are first made aware that there is a problem and are then guided through any necessary stages towards its solution.

In this chapter, I have suggested that every use of the laboratory must prove itself by its results. It is unlikely that it can satisfactorily replace the teacher in the classroom altogether. The effectiveness of our teaching might be impaired rather than improved if we relied exclusively on the laboratory for presenting or developing new material. In these areas personal interaction and improvisation are indispensable. The value of the laboratory must rather be ascertained as a means of giving concentrated individual practice. Six forms of practice have now been outlined. In subsequent chapters we shall study each in detail. But the next chapter turns aside to look at learners and at what it is that we are trying to teach them to do. For there is little point in discussing *how* we can practise something unless we are clear about *what* we want to practise and *why* we think it is worthwhile practising it in that particular way.

NOTES

1. For techniques of presenting new vocabulary items, see S. P. Corder: "The Teaching of Meaning", in *Applied Linguistics and the Teaching of English*, ed. Fraser and O'Donnell, Longman, 1969. For techniques of presenting poems, see A. Rodger's two papers in the same volume and P. Edwards: *Ballad Book for Africa*, Faber and Faber 1968 "Meaning and Context: An Exercise in Practical Stylistics", *English Language Teaching* XXII/3, May 1968.
2. These terms are taken from David Bradley: *An Investigation of Reading*, dissertation for the Diploma in Applied Linguistics, Edinburgh, 1966.
3. R. J. Handscombe: "Linguistics and Children's Interests", in *Applied Linguistics and the Teaching of English*, op. cit.
4. F. Rand Morton: *The Language Laboratory as a Teaching Machine*, publications of the Language Laboratory, Ann Arbor, Michigan, 1961.
5. For instance: *Basic Conversational French*, Holt, Rinehart and Winston, 1963; *Entender y Hablar*, Holt, Rinehart and Winston, 1961, and French and German Courses by the same publisher; *Direct Contact* IVAC; *Introduction to Bengali*, East-West Center Press, Honolulu.
6. The *Ealing Course in Spanish*, Longman 1967; the *Ealing Course in German*, Longman 1969; *The Turners*, Longman for The British Council, 1969; *A Modern Course in Business English*, Oxford University Press, 1967.
7. For a description of what can go wrong with pictures, and the principles of designing and using them effectively, see A. Wright: "The role of the artist in the Production of Visual Materials for Language Teaching", *International Journal of Educational Science*, Vol. 1, pp. 139–150, 1967.
8. For a discussion of the problems of translation, see S. P. Corder, "The Teaching of Meaning", op. cit.

2 The nature of language learning

Se miente más de la cuenta
Por falta de fantasía:
También la verdad se inventa. [1]
  – ANTONIO MACHADO

Die Sprache lässt sich nicht eigentlich lehren,
sondern nur im Gemüthe wecken. [2]
  WILHELM VON HUMBOLDT

I The conditions for language learning

In the last chapter I listed six forms of practice and proposed to illustrate and evaluate the scope of each in the language laboratory. It might seem logical to illustrate them first and evaluate them afterwards. But an examination of the nature of drills, exercises and problems will be more informed and, I feel, more fruitful, if we can establish some general principles of teaching at the outset. Each form of practice may prove to have its own part to play in the process of language learning. But before looking at the parts, we might do well to look at the whole. This chapter, then, is concerned with the nature of language learning. It presents two contrasting theories of language learning that have been advanced by psychologists. It relates these theories to the behaviour of some learners. And finally it gives the reader the opportunity of studying his own performance in learning a language.

Any enquiry into teaching is bound to be indirect. Teaching itself is an indirect process. As von Humboldt says:

> We cannot teach a language; we can only create the conditions under which it will be learned.

But what are the conditions that promote learning? For guidance we can turn to the psychologists who have studied learning. Broadly speaking they offer us a choice between two sets of conditions, each of which is held to be sufficient and necessary for learning to take place. The one set is proposed by traditional behaviourists, the other by those psychologists who can conveniently be called cognitive. [3]

2 The behaviourist's conditions

The behaviourist views of learning that concern us here can be summarised in two laws and one principle:

1. The law of exercise

2. The law of effect

3. The principle of shaping

The first law states that for learning to take place an "organism" must be *responding* actively and repeatedly. The more often it responds, the better it will remember. The stimulus to which it responds is immaterial. It could be an electric shock, a bell, or a flashing light. The second law states that if the response is rewarded — by release from pain, or by food — learning will be more effective. In other words, what happens after each response, its consequence, is not immaterial. If the consequences are painful, learning might be inhibited. The law of effect leads to the doctrine of forestalling failures or mistakes and to the principle of "shaping". The organism's responses are "shaped", in Skinner's terminology, in a series of steps, each of which is small enough to be successfully reached from the one before, each of which can therefore be rewarded, and each of which cumulatively leads to the desired end-behaviour.

3 The behaviourist in the classroom

As far as classroom practice is concerned, the behavioural laws commonly assume the form of maxims:

1. Get the pupils to utter the same structural pattern repeatedly;

2. Get them to do so correctly, forestalling all mistakes;

3. Do this by grading the structural patterns, that is by arranging them in order and introducing only one at a time.

The optimal order in which the patterns should be arranged is arrived at after a consideration of such factors as ease of learning, intelligibility, frequency of use in the language in question, demonstrability, mother tongue differences etc.[4]

The twin instruments of the behavioural approach to language learning are thus repetition and drilling. Drilling, as we shall see, is in effect only a sophisticated form of repetition. The learner is made to repeat not a single sentence but a structural pattern, varying its constituents systematically. The structural drill "shapes" each successive response of the learner just as the structurally graded syllabus shapes his progress from one structure to the next.

The language laboratory is at first sight an ideal asset for the behaviourist teacher. By enabling each student to work full time on his own, it promotes a maximum of active response and repetition. Each correct response of the learner can be rewarded or confirmed by his hearing the right answer on the tape. The only problem seems to be to shape his responses successfully, in other words, to ensure that he makes no mistakes.