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THE ROLE OF THE LABORATORY IN THE FOREIGN LANGUAGE PROGRAM.

BY- REINDORP, REGINALD C.

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A 10-WEEK INTENSIVE COURSE IN ENGLISH AS A FOREIGN LANGUAGE WAS DEVELOPED AT MISSISSIPPI SOUTHERN COLLEGE AND CONSIDERABLE EXPERIMENTING WAS DONE WITH DIFFERENT METHODS, MATERIALS, AND TECHNIQUES. THE GOVERNING ASSUMPTIONS WERE THAT LANGUAGE BASICALLY CONSISTS OF SPEECH OR SOUND, AND THAT THE MASTERY OF A SOUND SYSTEM INVOLVES THE MASTERY OF THE BASIC SKILLS TO THE POINT WHERE SPEECH BECOMES AN AUTOMATIC PHYSIOLOGICAL HABIT. THE COMPLETELY ORAL APPROACH WAS ADOPTED AS THE BEST METHOD, AND THE LANGUAGE LABORATORY PROVED TO BE AN IDEAL "DRILL MASTER" FOR PURPOSES OF INSTRUCTION. IT WAS ESTABLISHED THAT 300 HOURS OF ORAL INSTRUCTION IS THE MINIMUM THAT SHOULD BE REQUIRED OF BEGINNERS BEFORE USING WRITTEN MATERIALS. ALSO, THE LANGUAGE LABORATORY SHOULD USE AUDIOLINGUAL MATERIALS PREVIOUSLY INTRODUCED IN CLASS. THIS ARTICLE IS A REPRINT FROM "HISPANIA," VOLUME 45, NUMBER 4, DECEMBER 1962, PAGES 829-836. (RW)

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THE ROLE OF THE LABORATORY IN THE FOREIGN LANGUAGE PROGRAM

REGINALD C. REINDORF

~~West Hills State College, Kansas~~
Wesleyan College

The National Defense Education Act of 1958 gave a much needed stimulus to the study of foreign languages in the United States. The Act called attention emphatically to the desirability of new methodology by refusing to support financially the traditional methods that were widely in use up to that time. The Act also gave additional impetus to a movement already underway in the public schools of this country. The growing interest in foreign languages as a means of communication had begun to snowball across the nation. Foreign Language programs had sprung up over night in elementary schools; enrollments had begun to grow noticeably in high schools and colleges. The need for language as a practical means of communication underscored by world political tensions raised serious questions about prevailing methodology.

The old, traditional methods have been tried and generally found wanting, for the end product had not been a practical command of modern foreign language. When methodology was being questioned most seriously in this country World War II injected a new tool into education. The development of electronics in the field of communications and particularly in the field of high fidelity recording automatically suggested some possible and desirable changes in modern language teaching. As a result there was a return, in many quarters, to the audio-lingual method or what was previously known as the aural-oral method. This method was understood to mean and seemed to imply the use of the foreign language in the classroom and the exclusion of the mother tongue as much as possible. It also implied considerably larger amounts of oral drill and practice with the foreign language. However there was much confusion concerning the

meaning and practical application of the methodology and the new electronic gadgets that so quickly caught the eye of both the public and the profession. Much has been written and much more has been said indicating considerable misunderstanding about the numerous factors involved in the several aspects of the audio-lingual method. Experience has shown that few teachers fully understand either the method or the laboratory.

There is one aspect, particularly that seldom seems to be taken into account. There is much experimentation with, study of, research and writing about the variables in foreign language teaching. Unfortunately, these variables do not often escape from the limitations imposed by traditional methodology. Numerous aspects of prevalent methodology have been tested through experimentation in different ways and under many different circumstances. The difficulty is that there has been no absolute or practical standard set up by means of which real accomplishment or lack of it could be measured. The business world has a rather rigid standard for the measurement of accomplishment. The business that does not produce goods in such quantity and quality as to satisfy its customers is short-lived. A business must not only obtain but also increase the number of its customers so as to produce a profit and thereby continue to exist and justify its existence. In the public school systems of this country a language teacher on the high school or college level is seldom if ever required to justify his existence and his business. He can stand before a class, day after day, sounding pompous with incomprehensible elucidations and elaborations upon the theory of language, its grammar, its history and anything else *about* the language and never be questioned with reference to his

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accomplishment. In other words, language teachers have not been required to produce the goods nor to justify their existence in the manner of the business world.

The justification for this paper lies in the fact that it can present for consideration the results obtained from 1) a situation in which teachers of foreign language were required to operate in accordance with the business world's standards, and 2) experience as a state consultant.

During World War II the armed services were brought up short by the immediate need for personnel qualified in the practical use of foreign languages. In order to meet the need which the public schools had failed to fill special language courses were organized at a number of centers.² These intensive courses attempted to impart a command of a foreign language in a few short weeks. Dialogues were written for the purpose of presenting the kind of question and answer communication which might be needed in emergency situations in the war theatre. Linguists analyzed the languages into their patterns, which were then used in the dialogues. "Native informants" or native speakers of the languages drilled the patterns for the purpose of memorization, at the same time giving the students an accurate pronunciation, intonation, and inflection.

The foregoing description of the Army Specialist Training Program (ASTP) is highly unjust in its brevity but serves to highlight the salient characteristics. These courses were highly successful insofar as they accomplished their intended purpose. They did not teach language as customarily considered, but furnished the student with a dimly comprehended tool for purposes of emergency communication. The system produced far better results in the time spent than those obtained previously with most foreign language teaching, especially in the public schools. Teachers of foreign languages in the public schools, colleges and universities became excited momentarily over the "magic results" produced by the ASTP. Unfortunately, they found that some of the techniques could not be widely em-

ployed for lack of the requisite linguists and native speakers of the language. Furthermore, the expense involved in the employment of "native informants" was far beyond the modest means of school budgets. The solution, however, was developing rapidly at the same time in the burgeoning electronics industry. The several types of recording instruments now so much in use were just beginning to take form and they eventually came to take the place of the native informant. Before this could actually develop, however, notions about the nature of language and its implication for foreign language teaching had to be revamped.

A new analysis of the nature of language, of teaching materials and techniques, took place, mainly in those centers where intensive courses in foreign languages were being offered. The effect of the application of the standards of the business world may also be seen.

These standards were unwittingly brought to bear upon the intensive courses in English as a foreign language offered through the Institute of Latin American Studies at Mississippi Southern College. Fourteen years of experience with these courses and language laboratory equipment produced some unanticipated results. During ten of those years the writer was directly involved in both the teaching and administration of the courses. The students consisted of adults between the ages of seventeen and seventy who came from the other American republics, Spain and Portugal and from numerous other countries, particularly the Middle East. The courses were required to be one-hundred percent self-financing out of the fees of the students who came paying their own way. Students who had a scholarship or were otherwise financed by governmental agencies were rare. Under these circumstances the intensive English courses were faced with the choice of producing the goods as in the business world or of ceasing to operate for lack of customers (students). As it turned out these courses have developed a solid and substantial international reputation.

They are of ten weeks duration, involv-

ing a minimum of six hours per day and five days each week. The total of three hundred hours per course multiplied by four and a half courses per year over a period of fourteen years adds up to considerable experience. An experiment could be tried in one course, modified and tried again in a second, other changes made in a third and a fourth, all within one calendar year. Mathematically this was the equivalent of approximately thirteen and one half academic years of college work in a foreign language within one calendar year.

The natural effect of the intensive course is to magnify each of the elements which appears on a much smaller scale during the traditional type of class hour in the public schools, colleges and universities. Traditionally one class hour is devoted to pronunciation, grammar, reading, translation and writing, whereas each of these activities is magnified and treated separately in its own class in the intensive courses. An hour is spent on narration and vocabulary, another hour on pronunciation, a third on syntax or structure and a fourth on conversation and customs and culture of the people whose language is being studied. The remainder of the time each day is spent in related activity and on drill in the laboratory.

At first the courses in English as a foreign language consisted of a number of the traditional type of classes stacked one on another during the day much like a layer cake. As a result there was considerable duplication and overlapping and no teacher could make a satisfactory distinction between his class and those which preceded or followed. About this time, it was realized that the results were no more satisfactory than had been obtained from the traditional type of instruction. At the time it was realized, as mentioned previously, that it was necessary to produce the goods or the intensive courses would not long continue to exist. This was the goad which stimulated the staff to undertake some serious thinking about the nature of language, its implications for methodology, and teaching materials as well as the organization of classes. Fur-

thermore, it had become obvious that each group of students must be classified into sections of homogeneous knowledge or command of the language. But a classification examination could not be prepared until the teaching materials had been completed. In order to classify students into sections on the basis of their knowledge of the language it was necessary to know what they would be expected to learn and where they would be expected to start in a continuous curriculum. The foregoing elements of teaching and questions concerning procedure resulted in considerable confusion until it was decided to investigate the nature of language to determine whether it might throw some light on the learning process.

In thinking about language certain well known data were recalled. First, there is the fact that children go to school the first day in kindergarten or the first grade without having read a book nor having studied grammar. Second, the large number of illiterate people around the world also talk and understand each other without difficulty yet likewise have not read a book nor possess any knowledge of any grammar. Thirdly, in his long history, both recorded and unrecorded, man talked for thousands of years without suspecting the possibility of writing or reading. Historically speaking, writing is a recent invention, having a history of not more than thirty to fifty centuries, and fewer than half of the languages known today are written. There is no language, however, that is not spoken. These considerations led to the conclusion that writing, or the written word, is not language and that, basically, language consists of speech. Writing is a poor graphic representation of the sounds which make up speech. Yet, somehow or other, almost everyone, including teachers of language, has thought of it as the written form.

Our educational system has taught us to learn everything through the eye and out of a book with the occasional assistance of the hand. Because of this we have come to think of all learning as being a process of reading about the subject and getting information about it from the

written word. Thus we learn our history, economics, geography, chemistry, general science, and all the rest of the commonly taught subject matter in our schools. Consequently, when it came to teaching or learning languages, the same procedures were automatically and unthinkingly applied again. No thought was given to the nature of language or to the manner in which it is used.

Basically, language must be treated and used as a skill.³ It has already been seen that this skill consists of the use of sound or acoustic symbols for the purpose of conveying meaning and that writing is a poor representation of those sounds. This leads to the corollary that, at least in the initial stages, meaning must be obtained from the sounds of the language. Sounds (speech) came first, followed much later by writing, which in turn is interpreted by reading. The reading must interpret the writing in terms of the sounds represented from which meaning may be obtained. Reading is much like playing a musical instrument: the graphic symbols (notes or letters) must be interpreted by the appropriate sounds (by the piano strings or vocal chords) in order to produce meaning. This, however, implies that there must be developed some skill either in playing the piano keyboard or in producing sounds with the vocal organs. In both cases considerable practice is required to develop the necessary automatic habits. These must be developed fully in order to formulate the proper sounds in the correct sequence to produce meaning. Like the secretary learning to type, the development of the ability to play a musical instrument or to speak a language requires endless hours of practice and drill.

The foregoing reduction of linguistic accomplishment to simple skills is only apparent. There is no intention to eliminate the role of the mind and intelligence. The intention is to point up the fact that there must be a definite mastery of certain basic skills even in language before the mind can hope to make use of language or to become creative in it. This may be seen more clearly through an analogy with mathematics.

It is doubtful that the theory of numbers or equations is taught to beginners in mathematics (arithmetic) in the first years of the elementary school. Instead the beginners are taught numbers first, followed by addition, subtraction, multiplication, and division in this order. After having had enough practice or drill with these basic mathematical skills they are applied to simple arithmetic problems. As students progress through the grades the same basic skills are applied to increasingly more difficult problems, thus providing sufficient drill and practice to insure mastery. At the same time there are developed insights into the application of these skills which through years of practice are reduced to physiological habits of an automatic nature. After this automaticity of skill or habit has been thoroughly established the mind is freed for the activities of problem solving or creative work in mathematics. The mind, however, cannot be unfettered and apply itself freely to problem solving or creativity as long as it is required to focus its attention on the basic fundamental skills or operations of arithmetic. On the other hand, having mastered the skills and reduced them to automatic habit and having had some experience with the use and applications of mathematics the mind is ready to apply itself and the skills to a study of the theory of, and perhaps creative work in, mathematics.

The basic skills of mathematics have their counterpart in language. Comparable to adding, subtracting, multiplying and dividing in arithmetic we find hearing sounds correctly, associating them with their meaning, interpreting the meaning, and formulating the sounds. As in mathematics, these basic skills in speech must be reduced to automatic habit. When these habits have been properly established through practice or drill, mastery in the form of fluency in speech has been acquired. The mind is freed from the plodding drudgery of grammatical analysis, conjugations, word order and vocabulary. Having established this automaticity of basic physiological habit or skill the mind is ready to apply itself and the skills to the theory of, or creative activity in, the

language.

Having arrived at the foregoing conclusions, namely that language is basically sound and that mastery of the sound system involves a mastery of skills, the implications for learning a language appear to stand out rather clearly. The responsibility of the teacher lies in presenting to the student the sounds of the foreign language in such manner as to enable him to learn to hear them correctly in association with their meaning and to learn to say them correctly in the proper order so as to convey the meaning he has in his own mind. Obviously, this is the skill referred to above and can be mastered only through long practice. It cannot be accomplished by being talked about by the teacher, nor can it be taught. It must be mastered by the student through endless drill with undivided attention and with the guidance and tutelage of a good teacher.

The first attempts to design a program that would cover the above requirements in an intensive course resulted in a mechanical sub-division of traditional classroom activities. In other words, it seemed logical to teach vocabulary during the first hour of the day followed by work on pronunciation of exactly the same vocabulary during the second hour. Drill on grammatical patterns (without rules) was the bill of fare for the third hour while conversation involving the same materials a fourth time, and the customs and culture of the people whose language was being studied were the subject matter for the fourth and fifth hours respectively. The improvement resulting from this organization of teaching and studying was remarkable in comparison with results obtained in other experimentation. But the outcomes were still far from satisfactory under the business world's inexorable compulsion to produce the goods. Something was still lacking, indicating a need for further research and study. Certain events or incidents had occurred which, in combination with considerable discussion among faculty members in addition to further studies, all pointed to the possibility of an oral approach to the teach-

ing and learning of foreign languages. At this point the conclusion that language is basically sound began to assume larger proportions and greater significance. At the same time the results of certain other experiments became available.

Those experiments involved the use of manuals simultaneously with recordings. The theory was that correct pronunciation could be acquired by listening to a recording while reading the same words in print. The voice in the recording would be that of a native and the tempo would be slow enough to enable the student easily to follow in the manual. The experiments testing this theory proved once more that human beings in general can do but one thing at a time. In other words, the student of the foreign language would either listen to the recording or read the manual. Since most languages presented in the manuals were written in an alphabet that is almost identical with the one used by the mother tongue the student was lulled into the belief that it was easier to read the foreign language than to hear it. Consequently, he read the manual and ignored the recording. There was no improvement in pronunciation.

It was decided, therefore, to apply something more akin to an oral approach and to present as much of the language as possible without recourse to written materials.

The results again showed improvement but were still not satisfactory from the point of view of the aims and objectives. It was imperative that our students actually master at least the spoken language, if not more, as rapidly as possible.

By this time sufficient electronic equipment had become available to make it possible to set up a language laboratory. Consequently, it was decided to take the plunge and go over to a one hundred percent oral method. By this time rudimentary materials more or less suitable for the audio-lingual method had been developed by the faculty. As it turned out subsequently, these materials needed only to be expanded and put into suitable form to make them satisfactory. Furthermore, both a classification examination and

a proficiency examination had been developed to the point that their results could be used experimentally. All of these factors, in addition to the ever growing strength of conviction that the audio-lingual method is the solution to the problem of foreign language teaching, gave sufficient encouragement to adopt a completely oral method.

The organization for the oral method called for the use of the same materials with the same class schedule. The difference lay in the complete exclusion of written materials. Also, there were added two or three hours daily of drill in the laboratory using exactly the same materials as had been presented by the teachers in the classes. Thus, in place of the "native informant" the laboratory became the drill master. The teacher's manual containing the materials to be presented in class also provided the script for the recordings with which the students were drilled in the laboratory. Obviously, the teacher's manual and recording script had to be specially prepared for this dual purpose.

A ten-week or three-hundred-hour trial of the new materials, techniques and procedures produced results far beyond our own expectations or dreams.⁴

The great improvement and results over all previous trials seemed to indicate rather clearly that the materials, methods and organization were on the right track. There were still many questions to be answered, however, and only repeated experimentation could bring out the necessary information. It still remained to be determined how long a strictly audio-lingual method should be continued before teaching students to read the foreign language. There were also the questions of whether to teach spelling, when to teach writing, and finally what should be done about grammar. With ten-week courses repeating themselves more than four times a year it did not take long to begin obtaining information leading to tentative answers to these questions.

It had already been learned from previous experiments in teaching both English and Spanish that two weeks of oral instruction before introducing written ma-

terials was insufficient by far. Four weeks and six weeks had been tried with equally disappointing results. At this point it was realized that many of the foreign languages taught in the United States are written with an alphabet that varies only slightly from the one in which the mother tongue (English) is written. Hence, upon being faced with a foreign language written with much the same characters, the English speaking student would be neither normal nor natural if he did not attempt to pronounce the foreign language with the old familiar and well established sounds of the mother tongue.⁵ The student would thus acquire a mispronunciation that successfully disguises the foreign language to both himself and the native speaker. To say the least, it violated the principle of teaching one thing at a time. After studying this problem and with some experimentation it was concluded that the solution lay in the establishment of automatic physiological speech habits before presenting the student with the written language. Subsequent experimentation in which the strictly oral period was gradually lengthened from course to course substantiated this belief. Insofar as the experimentation has been carried out, it has been determined that three-hundred hours of oral instruction is the minimum that should be required of beginners before using written materials. This is the conclusion reached with reference to the teaching of English as a foreign language and with many students it was found that three-hundred hours is insufficient. The student learns through oral work to repeat English or Spanish patterns, phrases or sentences with a good pronunciation. On seeing the same materials in writing, however, the student invariably goes back to the sounds of his mother tongue in pronouncing what he sees. Since, in language, meaning is obtained from the sounds, it follows that incorrect pronunciation is either misleading or conveys no meaning at all. Consequently, the goal now becomes one of establishing automatic physiological speech habits. After the student has developed the necessary automaticity of habits or

skills for speaking the language, reading, spelling and writing come along rather easily and quickly, as experiments showed.

While the above experimentation was being carried on with English as a foreign language, similar experiments in regular college Spanish courses were being carried out. Information obtained in the English courses was immediately applied to the teaching of Spanish and vice versa. As a consequence, two sets of materials have been prepared and are in use. One set is for teaching English through intensive courses and is equally useful in regular school and college classes. The other set consists of materials developed originally for teaching Spanish in the secondary school and in college. There is a set of recordings to accompany each set of teaching materials including full instructions in the *Teacher's Manual*⁶ explaining their use both in class and in the laboratory.

By way of summary it may be pointed out that experimental evidence substantiates the conviction that the manipulation of speech sounds requires the establishment of basic skills or physiological habits. As in typing, playing the piano or the organ while directing the choir, as in driving an automobile and talking with a passenger, or in short, as in speaking the mother tongue, nothing short of habit will suffice. The mind cannot operate on or through language until the basic skills have been mastered and nothing can be written or read until there exists the ability to speak the language. Having once acquired this ability all other aspects of language come easily and quickly.

The results of experimentation also show that in all probability there should be a minimum of approximately three-hundred hours of oral work (two years in high school, three in college of traditionally organized classes) before the student is permitted to see the written language. This oral work includes practice or drill hours in the laboratory on the basis of approximately two hours for every one hour in class. Here again experimentation has shown that a desirable arrangement calls for three hours in class and four to six in the laboratory each week. The lab-

oratory may be arranged to suit the student's convenience. It has also been found that a student should not go to the laboratory to work with a given selection of materials until he has been introduced to the entire unit in class. This is covered carefully in the step-by-step instructions included in the above mentioned *Teacher's Manual*.

Experimentation also indicates that instruction in reading should be accompanied by lessons in spelling. The spelling not only facilitates reading and the comprehension of the written material but also facilitates learning to write at a still later date.

Some secondary corollaries or conclusions have also appeared. For example, it has been shown once more that a student should be taught one thing at a time and he should be given an opportunity to master each element or skill before being confronted with a new one. In other words, the beginning student should be given an opportunity to acquire fluency in speaking before he undertakes the complicated process of reading, and this skill in turn should be mastered before he undertakes writing. Furthermore, it has been found possible, nay even easy, to apply another principle of good teaching. This is to take advantage of what the student already knows and lead him from this point step-by-step into the unknown foreign language. It is possible to prepare an entire introductory unit or chapter of teaching materials in Spanish that the student can understand and that will enable him during the first class hour to ask and answer questions—all without translation or the use of props of any kind. As a matter of fact, the preparation of teaching materials for the audio-lingual method and the language laboratory is a brand new field that has hardly been touched. The techniques and principles involved are not commonly known and more often are misinterpreted. Text books and the audio-lingual method are mutually exclusive, yet most of the teaching materials prepared today for use in the language laboratory prove to be little else than a transfer of the text book to mag-

netic tape or discs. These materials were not prepared for this manner of use or treatment and are highly unsatisfactory.

The purpose of some of the equipment or furnishings supplied in the language laboratory also seems to have been misinterpreted. The study of a foreign language does not require that the student have at his disposal a gilded enclosure. Nevertheless, this is pretty much the kind of thing that is being manufactured commercially and sold at an unduly high cost under the label of a student booth. What is actually needed is a means of isolating each student from all others in the room. The *linguistic adult*, as distinguished from the child twelve years of age or younger, has acquired inhibitions and is afraid to attempt the strange sounds of a foreign language if he thinks that anyone may hear or see him make a mistake. Furthermore, he is more apt to make a mistake because his speech organs have become fixed in the habits and patterns of the mother tongue. He does not hear the strange sounds of the foreign language so easily now and it is more difficult to say them. The older he becomes the more difficult these things become for him and the more practice is required to overcome his mother tongue habits. Furthermore, our educational system has taught him to learn nearly everything out of a book and through the eye, but the eye can no more perceive sounds than the ear can read. Through education and habit the student wants to learn out of a book and in most cases must be educated to the process of learning through the ear. All the foregoing leads to the obvious conclusion that the only purpose of the student booth is to isolate him completely from all other students in the room. He must not be able to hear or see any other student, or parts of other students, and he should be comfortable in the knowledge that he in turn will not be seen or heard.

If these conditions are met in the student booth, the student's fear of the language will be eliminated. And if the laboratory serves its basic purpose, he will be

able to realize his long cherished dream of learning to speak a language. He will feel free to practice and drill as much as necessary, and if he takes no more than one year of the language he will have acquired at least an elementary fluency with all the satisfaction that goes with it. If he pursues the study of the language for three years in high school, or longer in the elementary and secondary schools, he will arrive at an institution of higher education worthy of the name of college student in his foreign language.

A final conclusion derived from the experimentation is that the language laboratory serves only one purpose. That purpose is to take the place of the "native informant" used during the war by the armed services language schools. The aim is to provide sufficient drill, practice and repetition so that the student may develop and fix the necessary automatic speech habits. This is not memorization any more than is driving a car by a person of many long years of experience. Like walking, "knowing" the multiplication tables, or swimming, talking is a complex set of habits and it is a well established fact that the way to develop habits or skills is through long hours of practice. For this purpose the language laboratory becomes the peerless *drill master*. This is the basic purpose of the electronic equipment which is made available to the student in the room called the language laboratory.

NOTES

- ¹ Sheppard, Douglas C. "So What is Audio-Lingual?" *Hispania*, Vol. XLIV, No. 2 (May 1961) p. 292.
- ² Angiolillo, Paul F. *Armed Forces Language Teaching*, New York, 1947.
- ³ Penfield, Wilder. *Speech and Brain Mechanism*, excerpts quoted in *FL Bulletin*, New York: MLA., April 1960, p. 8.
- ⁴ Adams, D. A. "Materials and Techniques in Teaching English as a Second Language," *Modern Language Journal*, Vol. XLII, No. 8, (Dec. 1957), p. 376.
- ⁵ Penfield, op. cit., p. 12.
- ⁶ Reindorp, Reginald C. et al. *Oral Spanish Tapes and Teacher's Manual to accompany same; also Student's Manuals*. Washington, D. C., 1960.