TEACHING PHONETICS FOR LINGUISTIC FIELD WORK

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ABSTRACT

This paper reports on a successful training program for linguistic field workers, for learning to transcribe and speak unwritten languages. The emphasis is not only on transcription, analysis and theory, but also on individual production of the various sounds that the human vocal tract is capable of producing, which may be encountered in languages. Emphasis is placed also on controlling longer utterances with proper pitch patterns, stress, and rhythm.

INTRODUCTION

Beginning phonetics courses are offered by the Summer Institute of Linguistics (SIL) at the Universities of Oklahoma, North Dakota, Oregon, and Texas at Arlington, as well as in England, France, Germany, Australia, Canada, New Zealand and in other parts of the world. Although the courses in the different places vary in detail, the overall structuring and methods are similar. I am reporting from my own particular viewpoint and experience.

Through the years many hundreds of students have taken these courses and have done successful field work, including language learning, in exotic languages around the world. The pedagogical approach has benefitted from feedback from these field workers, adding to the basic course design as originally developed by Evelyn G. Pike. We have also made use of the many excellent suggestions from skilled British phoneticians, going back to Daniel Jones and Westermann and Ward, as well as more recent ones.

Some aspects of the course have been reported on in *Language Learning*: K.L. Pike, "Problems in the Teaching of Practical Phonemics" [14]; George M. Cowan, "An Experiment with a Wire Recorder in Teaching General Phonetics" [3]; Eunice V. Pike, "A Test for Predicting Phonetic Ability" [9]; Frank E. Robbins, "A Ten Day Program of Preparation for Language Learning" [17].

PURPOSE AND SCOPE OF THE COURSE

The SIL approach to teaching articulatory phonetics has its theoretical base in K.L. Pike *Phonetics* [11], and in K.L. Pike *Phonemics* [12], with additional input from later materials of Abercrombie [1], Ladefoged [7], and others. It is designed to prepare students for field work in unwritten minority languages and for being able to speak those languages with as little mother-tongue interference as possible. The methods can be applied to learning any foreign language.

Emphasis is placed on the recognition and production of all types of sounds used in languages, and on giving the necessary flexibility to arrive at the specific qualities of sounds in individual languages.

In addition to extensive drill on individual sounds, emphasis is placed on awareness and control of the rhythm and pitch patterns of longer segments of natural speech. Conversations in a variety of languages are learned by mimicry from tapes. Theoretical advances in understanding the larger units in the phonological hierarchy come from Pike *Language in Relation to a Unified Theory of the Structure of Human Behavior*, chapters 8 and 9 [15], and from Pike *The Intonation of American English* [13].

During the last segment of the course, students work with a native speaker of a non-European language, to determine the sound system from their own transcribed data and to learn to carry on a conversation with the speaker in his language. They also prepare and practice drills to sharpen their hearing and to help in sorting out the raw phonetic data.

MECHANICS OF THE COURSE

The 35 teaching periods are given over primarily to drill sessions by small groups of a maximum of ten students, to give the individual attention needed for mastering the material. Teachers are rotated so that students hear the voices of several different instructors.

Instructors are mostly workers of the SIL with extensive phonetic experience in at least one language. Those who have not yet worked in the field, or who are teaching for the first time, are assigned to an experienced staff member for checking dictation in preparation for the class session.

Uniformity in the drill sessions for an enrollment of 80 or 100 students is facilitated by detailed lesson plans and by daily briefing sessions for the instructors. At the briefing sessions we have an opportunity not only to discuss the new lesson and to check each other for a mastery of the material, but to share with each other the things that worked or didn't work in our classes. The briefings constitute in-service training for the instructors, where we all learn, experienced and inexperienced alike.

Daily assignments, weekly testing, and material on tape are planned to help the students master the material.

Most of the students are also enrolled in courses in phonology and grammar for a well-rounded introductory course in linguistics. Thus the role of phonetics is seen in its larger setting.

Lectures are relatively few in comparison with the drill sessions. They present some basic theory, and make use of the

specialties of other SIL staff members. For instance, Kenneth Gregerson lectured on tongue root function in languages of southeast Asia. The students have as a textbook *Dictation Exercises in Phonetics* by Eunice V. Pike [10]. This is supplemented by assigned readings in phonetic theory. The SIL courses in the different locations differ as to what book is used as a text.

METHODS AND TECHNIQUES

In each drill session a specific sound type is presented. The presentation has three elements: theory, production of the sounds, and ear training and transcription. Theory and practice go hand in hand. Review, especially of the sounds studied at the last class hour, is included to help fix the sounds in the minds of the students.

Theory

During the nine-week time span of the course we cover quite thoroughly the range of basic points of reference in sounds. In addition to the theory presented in the lectures, background theory including the physiology of speech production is presented in the drill sessions as each new type of sound is taught. The features which identify a sound and make it contrast with another are emphasized. Students are required to be able to illustrate these features by making face diagrams of the sounds and by knowing the technical name for each sound. Dynamic diagrams of strings of sounds are presented.

Some films are shown. One of the most useful for beginners is "Velopharyngeal Function in Normal Speakers", produced by Kenneth Moll (distributed by Bureau of Audio-Visual Instruction, State University of Iowa), which presents the action of the velopharyngeal mechanism by animated drawings and by cinefluorographic film sequences. This film is an excellent way to show the students the action of the velic and the coordinated movements of the organs of speech.

For other films which we have used from time to time see Keller *Instrumental Articulatory Phonetics* [6]. I am indebted to the University of Edinburgh for the stimulus for the use of films in teaching phonetics, as well as for a broader perspective in phonetics and for a background in experimental articulatory phonetics.

The videotape of K.L. Pike on phonetics [16] is invaluable in giving an idea of the range of human speech sounds, and techniques for flexibility. Also illustrated in the videotape are languages with dynamic phonetic features very different from those of English.

Production of Speech Sounds

There are two basic problems faced by the student in learning to produce new sounds or to speak a second language. One is to overcome the psychological barriers to making new and different sounds which may sound very "queer" to him, or which may turn out very different from the model thus making him feel inferior or inadequate. The second is to overcome interference from the mother tongue, ingrained habits which are difficult to break and of which the student is not even aware.

In the very beginning of the course we try to deal with the psychological blocks. The small classes and an atmosphere of informality help put the students at their ease and make

possible student-teacher interaction. In teaching the production of specific new sounds, we have the class repeat in unison, mimicking the teacher, before having each student in turn try to produce the sound. This gives students a chance to try making the sound before being called on individually. Learning to laugh at oneself helps in the learning process. During the group mimicry, the teacher listens critically, commending good performance or making suggestions for improvement. By the end of the class the student knows whether he can make the sounds satisfactorily, or how to go about working on their production.

To overcome interference from the mother tongue the student needs to understand the differences between the new sounds and those of his mother tongue, and be exposed to extensive drill. In the context of SIL we have learned that we need to give hands-on time to students to help them overcome ingrained mother-tongue influences and help them master sounds maximally different from sounds in their first language. Students often have problems with ejectives and implosives, for example, and in controlling vowel glides. They also may have problems controlling sounds of their mother tongue when they occur in positions different from where they occur in their original language. English speakers have to learn to produce a velar nasal initially in an utterance even though they can do it easily when it occurs syllable final.

For the mastery of individual sounds, we give in-class help individually to the students as well as collectively in the group mimicry. We emphasize learning by mimicry. If that fails, we give suggestions on how the student could produce the sound, going from the known to the unknown. Simple nontechnical hints often work. To help the student produce a bilabial fricative, for instance, in contrast to the labiodental fricative he is accustomed to making, we get results by saying, "Grin and blow the hair off your forehead." Many phonetic exercises for pronouncing sound types are included in chapter 2 of Pike *Phonemics* [12]. We have gotten hints on how to produce sounds from Daniel Jones [5], Westermann and Ward [19], Ladefoged [8], Smalley [18] and others. Feedback from staff members is an additional source of ways to help students master sounds.

In addition to in-class help, tapes are made available to the students. Students are encouraged to work in pairs, so that they can help each other. Their progress is monitored through weekly check-ins with a staff member, in which the sounds studied that week are gone over with the student. Any sound not yet mastered is recorded for further work, along with suggestions on how to proceed to master the sound.

For practicing sounds in context, frame drills of nonsense combinations are assigned from time to time. Also a list of words from actual languages, covering the sounds currently being studied, is given to the students each week. The students are subsequently given a production test on these words.

In teaching students to hear and control intonation, rhythm and tone, we begin with exercises in English intonation. The students are given a selection with the intonation, stresses and pauses marked, and are asked to practice reading it until they can read it as marked. Meanings conveyed by different contours are pointed out. If one is aware of what he does in his own language, he can more readily recognize patterns in another language. One lecture is devoted to what we term *speech styles*, in which students are made aware of overall phonetic features which may color a language and make it

sound different from another or which may be contrastive within a single language. Examples collected from field experience are presented. Required reading is the article "Articulatory Settings" by Beatrice Honikman [4], which emphasizes the importance of "shifting gears" in going from the mother tongue to a new language.

For the mastery of longer utterances we have found buildup drills helpful. Another valuable technique is tracking, referred to as "shadowing" by L.A. Chistovich in "Relation between Speech Production and Speech Perception" [2] at the Tenth International Congress of Phonetic Sciences. This rapid imitation of speech, following along with a speaker a half syllable behind, can be done silently or out loud and helps a student get into the rhythm, pitch patterns, and speed of the target language.

To give the students practice in the mastery of longer utterances, conversations in a variety of languages have been recorded on tape. The students are assigned a different language each week. They listen over and over to the phrases, mimicking until they can control the intonation, speed, and rhythm. To facilitate the learning, each phrase of the conversation is repeated on the tape about five times, with a pause for mimicry between each utterance; then the conversation as a whole is given. At the end of the week the students are tested on their mastery of the conversation. We have used such diverse languages as Chinese, Isneg (Philippines), Turkish, Basque, Totonac (Mexico), Igbo (Africa).

Ear Training and Transcription

Drills are those from *Dictation Exercises in Phonetics* by Eunice Pike [10], with additional language materials which we have collected from field members down through the years.

For each sound type, we begin with oral ear training, contrasting the new sound with a similar known sound with which the student would be most likely to confuse it. Transcription practice begins with single-syllable *differential drills*, contrasting the sounds just worked on orally. When the students can distinguish the sounds in minimal contrast, harder drills are given. *Recognition drills* are made up of nonsense words containing the new sounds along with sounds studied to date. Each lesson also contains drills of actual language words. The drills are dictated by the teacher for transcription, then students are asked to read back the words. Dictation tests are given about once a week.

Tapes of controlled material by native speakers illustrating specific sound contrasts are available for extra ear training. These include Amharic, Finnish, Gugarati, Zulu.

APPLICATION OF THE TRAINING

The last segment of the course consists of an eight-day linguistic field problem. Instead of classes, the student is assigned a non-European language to work on.

The students are divided into groups of five or six to work with the native speaker of the language. Staff members are assigned to each group to advise and to encourage. Each student is with the native speaker for three periods during the day.

During the first period the entire group is together for an assimilation session, in which material is elicited in context, learned and practiced as a conversation. Tangible objects to work with help make real the situations around which the

conversations are built. Writing is discouraged, but the phrases are taped for later mimicry and practice.

Each student has a period in which he can elicit material for analysis and another period in which he is an observer when another student is eliciting. The students are to learn whatever they can about the sound system of the language from their own elicited data. They write this up for their phonology course and look for grammatical patterns for their grammar course.

The phonetics requirements are twofold. The students are to construct drills which will help them in pronunciation or which will help to sharpen their hearing. They are also to learn enough of the language to be able to carry on a five-minute conversation with the native speaker from materials learned during the assimilation periods and practiced in their eliciting sessions. On the last day, each student is asked to converse with the language speaker, using props but nothing written.

SUMMARY

By small classes, individual help, extensive drill, and carefully monitored student progress we try to give students an understanding of the whole gamut of possible speech sounds, help them to make and recognize these sounds, and help them to have flexibility to reach shades of sounds not specifically taught in class that they might come across in a language.

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