

## COMPUTER-ASSISTED RUSSIAN PHONETICS LEARNING

N.V. Bogdanova, I.S. Panova-Jabloshnikova,  
S.B. Stepanova

Leningrad State University, USSR

### ABSTRACT

This paper dealing with the experience of using computers in teaching Russian phonetics describes a working program of a teaching automatic transcrip-tor and a number of con-trolling phonetic programs for students of Russian, foreign teachers of Russian phonetics who wish to raise their qualification and other of users. These pro-grams allow to study theo-retical phonetics, reading rules and work out practical transcription skills.

Computer-assisted means of teaching already familiar in foreign language learning (at the Department of Phi-lology of the Leningrad state University such pro-grams have been worked out on two languages and are used in teaching process), can be successfully used in diffe-rent courses for students studying Russian philology. At the Department of Philo-logy of the Leningrad state University a whole series of such programs has been wor-ked out and is actively used in teaching process. In the first place they are inten-ded for doing exercises which demand a student to have some definite analysis skills and automatism. Such

skills often can be acquired only long training and its' control is very boring to a teacher and takes much class time.

So at the course of Rus-sin phonetics original work of students is provided at a computer class where they can do exercises on trans-cription, syllable division and phoneme description in terms of differential fea-tures. Working out practical transcription skills takes particularly much time. The teaching automatic trans-cripter (AT) created at the Leningrad state University is a kind of the universal AT which had been worked out for the Computer Russian language Fund as a part (or one of structural blocks) of the Phonetic Fund. This one is able to translate any orthographic text into a sequence of transcription signs with different degree of detailazation - phoneme, phonetic and detailed pho-netic which is used in synthesized speech creating. The teaching AT has other aims - teaching and control of transcription skills. The AT program includes 3 series of exercises: phoneme transcription, phonetic transcription and a multi-variant phonematic trans-cription taking into account different modern phonologi-

cal conceptions.

The phoneme part of the teaching AT includes 12 exercises located according to increasing of their complexity. Each exercise introduces concrete phonetic rule: pronunciation of jot-ted and unjotted vowels in the stressed and non-stres-sed position, assimilation of consonants in different features, pronunciation of different consonant sequen-ces including dubble and "non-pronounced". In all cases a word displayed on the screen corresponds to its' transcription presen-tation, it means that the rules are formulated "from letter to sound" or to be more correct - to its' transcription designation. Separately taken exercise contains words-exceptions pronunciation of which should be learned by heart (что, конечно, мягкий etc.). The last exercise in this part contains transcrip-tion of combinations of words and a summary of all considered phonetic features in Russian speech. This part of the teaching AT has rather wide sphere of application. Besides its ability to control the acquiring of phoneme transcription skills within the framework of Sheherba's phonological conception it can carry out other functions. Thus, the series of exercises on pho-neme transcription can serve as a peculiar testing of non-Russian students' know-ledge of Russian pronuncia-tion. It is known that get-ting information about the level of student's training at the beginning of studies helps teacher to choose methodics and lexic material and plan the teaching in a way to reach the best results in this given

audience. Phoneme trans-cription based on Shcherba's phonology fully can serve as this test as it reveals a real pronunciation.

Another sphere of using the phoneme part of the teaching AT is teaching pronunciation people with difficulty of hearing. Generally such a methodics may be applied to the people who lost their hearing at a rather early age. It is known that if inborn hearing skills are lost before 12 years of age many of pro-nunciation skills concerning phonetic active laws of the Russian language - opposi-tion of voiced and voiceless consonants, difference bet-ween vowels with different degrees of reduction etc.- are not formed yet. When there is no natural way: perception of sound - pro-duction of sound - people with difficulty of hearing have the only way of gaining orthoepic skills left: ortho-graphic word image - its' sound image. The interme-diate link in last case is the transcription notion of sound word image which is provided by the AT. In this sense methodics of the speech training of foreign-ers and people with bad hearing is very monotype.

Computer-assisted teach-ing and the AT programs are supposed to be organized in the following way. A student or a patient is communica-ting with computer in a computer class. Words the transcription of which should be typed on the key-board are displayed on the screen according to the booted program. The user types transcription accord-ing to his own idea of the word sounding. Pronunciation mistakes which are charac-teristic to the student and

are the results of wrong or simply specific Russian speech perception will be reflected in the transcription. In the case of a wrong answer "?" is displayed on the screen in the place of the mistake and the program suggests user to transcribe this word once more. If it is necessary the student can make an inquiry to the computer memory and get a rule corresponding to this case. On the stage of training in the Russian Literary (standard) pronunciation this rule can be considered as orthoepic rule. On the advanced stage of teaching students can get knowledge of Russian orthoepic standard variability. At last if the right answer is not received the program suggests the right answer and goes to next word. Words specially selected for exercises and step by step passing from simple rules to more complicated ones should help people with difficulty of hearing and patients with temporary violation of hearing and speech to eliminate mistakes in pronunciation and acquire right orthoepic skills.

Next part of the teaching AT - phonetic - considers all main laws of Russian speech: the law of quality and quantity vowel reduction, mutual influence of sounds in speech flow, positional distribution of Russian phoneme allophones. This part of the teaching AT contains 17 exercises which are located according to their increasing complexity. Each new exercise introduces next phonetic rule and suggests a new transcription sign. All these rules are stored in computer memory and can be displayed on the screen at the user's inquiry

on any stage of work with the program. The inquiry part of the AT also contains information on the Russian language phoneme system, its structure, differential features and their correspondence within the framework of the system. Any part of this information can be demanded by the user either before work - in this case doing exercises is absolutely original without teacher's help - or in course of work if some difficulties appear. This part is supposed to have more limited sphere of application - it is intended for philologists who study Russian phonetics. However it is acquiring phonetic transcription skills that takes particularly long training; but replacing auditory classes with work at the computer-equipped class saves much teaching time.

The third part of the AT is even more specific. It contains exercises on phoneme transcription within the framework of different phonological conceptions. According to the Russian phonetics teaching curriculum students of the Department of Philology get acquainted with the point of view of Moscow Phonological School supporters and the theory of weak and strong phonemes by R.I. Avanesov. Serious knowledge of these phonological statements expect students to be able to give a phoneme structure of any word from the point of view of both these conceptions. In this part of the AT each word displayed on the screen should have 5 corresponding transcriptions: phonetic, Shcherba's, Moscow School phoneme and 2 transcriptions by Avanesov - word-phoneme and morph-phon-

etic. Such skills also take much teaching time to be gained. When using the AT teacher only has to prepare student for this work and control its fulfillment which is fixed in computer listing.

The program of the AT, as it is clear from the previous part of the report, is organized according to the pattern when student enters the needed form of the given word. The exercises on syllable division in the Russian language have the same structure. In this case practical work also improves the knowledge gained at lectures. Students acquaint themselves with all existing theories on syllable division and use them in practice. As in all previous cases computer checks the correctness of the answers, appreciates the results and memorizes mistakes.

Checking theoretical knowledge of Russian phonetics also takes much of teacher's efforts and time, it is realized with the help of a series of phonetic exercises. The main attention is paid here to the phoneme system of the Russian language, its differential features and phoneme modification in speech flow. This program is based on the "menu" principle when the user is to choose the right answer among several suggested variants. The student is only to press one key to answer the question on Russian phoneme differential features, their difference and similarity. The student of the Department of Philology T. Taalman took part in working out the recent phonetic programs.

All considered programs are intended for the students of Russian (including

foreigners) and for those who perfect their Russian. They can be of great help for foreign teachers of Russian who teach Russian phonetics. The programs are open, can be added and work under all operational systems.