

ABOUT EDUCATION; U.S. AND SOVIET TO SHARE INSIGHTS ON COMPUTERS

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A MEETING of American and Soviet educational computer experts has produced an agreement to exchange specialists involved in the improvement of elementary and secondary education.

The initial American-Soviet exchange is intended as a first step toward cooperation among education reformers from a number of countries, including Britain and Japan. One goal is to reduce the present emphasis on training computer programmers, and stress instead the computer's potential to restructure the education of young children, beginning in third grade or earlier.

The discussions, which were held Oct. 24-29 in Moscow, were carried out under the auspices of the Carnegie Corporation of New York, a philanthropic foundation, and the Soviet Academy of Sciences. They followed preparatory talks between Dr. David A. Hamburg, president of the foundation, and Yevgeny P. Velikhov, a vice president of the Soviet Academy. Mr. Velikhov, a physicist, is considered one of the most influential scientists in the Soviet Union and a frequent adviser to Secretary General Mikhail S. Gorbachev. He also heads the Academy's Institute of Informatics, which deals with the application of computers to education and communications. The negotiations had the prior approval of the State Department and National Security advisers.

In preparatory discussions with Dr. Hamburg, Mr. Velikhov noted that Soviet schools have made great progress in introducing pupils to science and mathematics at an early age, while the United States has moved ahead in the earlier use of computers.

The exchange agreement was signed by staff members of the Carnegie Corporation and of the Soviet Institute of Informatics. It was subsequently approved by Dr. Hamburg and Mr. Velikhov. It calls for a visit by Soviet experts to the United States next April, to be followed by a return visit of American specialists, probably in May. These initial meetings are to be built around observation of effective computer education programs at universities and in schools. They would prepare the ground for long-term cooperation between experts of the two countries, to be extended as soon as possible to experts from other nations. The agreement suggests that the first such multinational meeting take place next summer, possibly in Vienna.

Several issues are listed for joint investigation. They include computer-based methods to develop creative abilities of primary school pupils; creation and testing of software for use in primary school, and proposals for the restructuring of the curriculum and of teaching methods through the use of computers in the early grades.

Additional issues include evaluation of the training of teachers in the use of computers and elimination of teachers' fear of computers, and creation of Soviet-American pilot projects for joint experiments.

At first glance the proposed cooperation may not seem to begin on a foundation of parity. The Soviet Union is far behind the United States in the number of computers in its schools. Soviet efforts some two years ago to produce an educational computer - a copy of the Apple II - failed miserably. For the moment, 4,000 computers, imported from Japan by the Soviet Institute for Informatics, constitute nearly all the available computers for use in Soviet schools, which enroll an estimated 90 million pupils. In contrast, the United States, with about 40 million pupils, has over a million computers in its schools.

The latest Soviet school reform plan, which went into effect this year, calls for computer science instruction for all ninth and tenth graders. The few available computers have been placed in centers, two of them in Moscow, each serving about nine nearby schools whose ninth graders go there for three hours a week to get computer science instruction. Most high school students must study computer science with the aid of a specially prepared textbook that teaches programming without any machines.

Many American experts nevertheless consider cooperation useful to both countries, as well as to improved relations with the most forward-looking members of the Soviet establishment. They point to the similarity in the debate over the best educational use of computers. The entrenched bureaucracies in both countries view computer education as a primarily vocational subject to train programmers. The innovators on both sides consider this wasteful use of students' time. They see the computer as the key to closer cooperation between children and teachers and as a means of teaching pupils to think independently and to take greater responsibility for their own education.

Some American school reformers believe that much could be gained if the American lead in the production of effective computers could be combined with the creation of software, or programs, that take advantage of the Soviet success in an early start in mathematics and science instruction.

Some American analysts wonder whether those who control communications in the Soviet Union are willing to accept the massive availability of personal computers, which have the potential for creating communication networks outside monitored channels. This is not, however, something for the American supporters of an educational exchange to worry about. On the contrary, if prominent Soviet educators and scientists are ready to enter into such an exchange, the potential side effects of relaxing controls over communications might constitute an additional gain for future generations.