

## EDUCATION

# Soviet-U. S. Education

**An expert urges that an evaluation of American education be kept clear of narrow considerations of military technology and a numbers race with the Russians.**

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► **IN GENERAL**, my broadest impression is that educational goals in the two countries are basically different. Soviet education is a State training program preparing personnel for planned, predetermined positions in the labor force. American education seeks, in contrast, to develop the inherent capacities of individuals so that they might lead socially useful lives and exercise reasonable judgment as citizens.

Soviet training and tests are oriented toward meeting specified performance standards, while American pedagogy attempts also to identify potential abilities and to remedy learning difficulties. Finally, Soviet education maintains student effort through graded material and social incentives commensurate in scale with the State's evaluation of the job to be filled. American education assumes internal motivation on the student's part; furthermore, in this country, educational attainment, economic success, and social status have only moderate intercorrelations.

Another basic contrast is in the degree of structuring of hierarchical order and centralized direction in the two educational systems.

In the Soviet Union, missions, priorities, and means are set by the Communist Party and State. The training of a Party and technological leadership, and of a body of skilled technicians dominate all programs. This concentration has produced unquestionable results. It has also led to an annual retardation and drop-out rate of 20% for primary and secondary education as a whole. That in turn has drastically limited average educational attainments; even in 1955-56, only a third of the industrial workmen, a young and rather select lot, had completed the seventh grade.

In the United States, informal mechanisms and pragmatic adjustments have played vital roles in the total educational scene. For example, the county agent system and the Four-H Clubs have contributed greatly to the technological level of American agriculture.

In industry and commerce, the labor unions and business have exercised much influence upon the content and methods of vocational curricula, and even developed extensive programs of apprentice training and intramural education. In many fields, professional societies have built up standards.

Finally, the loose fabric of American society has permitted substantial occupa-

tional mobility to meet shifting demands for skills. In sum, American education should not be judged in terms of its humane objectives and formal structure alone. An equally vital test is the proven quality of the working labor force.

The differences between the educational systems of the two nations are counterbalanced by a number of major similarities. Most important is a common vision of an improving society, made possible by universal, publicly financed education. Yet neither country has been able to achieve equality of educational access for all its citizens. In the Soviet Union, the rural areas remain severely deprived; in the United States, race and region are the pertinent variables. Furthermore, both nations depend upon elite institutions—the thirty-odd universities in the U.S.S.R. and leading private schools and colleges in this country—to provide key leaders.

However, the Soviets have no counterpart to our large state universities, with



**RUSSIAN SCIENCE SKYSCRAPER**  
—A symbol of the Soviet push in science education is the University of Moscow science skyscraper that dominates the Russian capital. This scientific manpower factory is a key factor in the Soviet effort to best the United States scientifically and technologically. A statue of the Russian physicist Lebedev sits guard in the foreground.

their traditions of practical service to their communities, and with their educational policies of easy entrance but severe attrition. Finally, the great dynamism of both nations has opened avenues of mobility in and out of professional occupations, differences in institutions notwithstanding. As a result, conditions of personal advantage (from the standpoints of security and satisfaction, as well as economic gain) have profoundly modified the formally directed effects of the two educational systems.

At various educational levels, the Soviet Union manifests both strengths and weaknesses in comparison with the United States. Thus, while differences in pattern are evident, no simple qualitative judgment appears plausible.

## Senses in Grade School

The Soviet grade-school curriculum resembles that of our better progressive schools in its stress on natural history and on observation. Soviet children are conditioned to use their eyes, ears, and hands. They gain a feeling for their environment through nature walks, excursions, and simple experiments. Soviet elementary textbooks are generally good; they are clear, simple, and informative.

The weaknesses of Soviet elementary schools derive from the low standards of teacher training, since only secondary education is required to instruct in these grades, and the pay is poor. In addition, classes are large, with double and even triple sessions common.

At the junior and senior high school level, the Soviet school system gives far more formal content, especially in mathematics and physics, than do all but a few American schools. The teaching of chemistry does not seem as good; that of biology, rather poor. The teaching methods used are didactic, with the experimental approach little stressed. There are no Science Fairs. The quality of Soviet secondary training is hard to judge, for the actual, representative test scores achieved in State examinations are not published. Over-all, the average Soviet high school graduate probably knows more facts and handles mathematics better than the average graduate of an American academic high school. Whether many reach the substantive, creative, and motivational levels of our best schools is another question.

In higher education, both countries exhibit vast internal differences. The Soviet universities give training in the physical sciences equal to the finest in the world; conversely, the narrower institutes, with their minute faculties and shop-practice orientation, are often poor indeed. In biology, Soviet standards are generally low; ours are low in many of the earth sciences. An over-all assessment is difficult to make.

The Soviets have some serious weaknesses in their graduate training. Much time is wasted preparing for examinations on Marx-

ism, and the quality of foreign-language skills is low (as in the U. S.), popular mythology to the contrary notwithstanding. They have, at the same time, two basic assets in advanced training: 1. The intimate integration of their graduate training with the nation's leading research institutes, as contrasted to the isolation of graduate schools from industrial and governmental research in the U. S., 2. The close individual-guidance system by which each faculty member has a very few persons whom he carefully develops. This gives an intensity of training rarely achieved in this country. It appears to be adequately supplemented, moreover, by graduate-student participation in staff conferences.

### Course Work De-emphasized

There is little emphasis upon course work, since most of that is completed at the undergraduate level. On the American side, the comprehensive general examinations prior to candidacy for the doctorate degree are perhaps the major feature of advantage vis-a-vis the U.S.S.R.

In sum, Soviet education, while inapplicable as a general model, offers numerous features which can be studied and even adopted with profit in this country. The systems of other nations, particularly in Western Europe, also present much that is challenging. But a consciousness of a strong American educational tradition is equally important.

Above all, I would urge that evaluations of American education be kept clear of narrow considerations of military technology or a race in numbers with the Soviet Union. The Sputnik and allied developments represent the payoff of a long-continuing effort by men who were trained, not in today's narrow formalism but in the 1920's, when Dewey's philosophy was strongly influencing Soviet practice. The lessons of these accomplishments relate visibly, not to questions of general education, but to specific problems of military-scientific planning and coordination. They must also be viewed in relation to the distortion of research effort which they have imposed on Soviet science and technology, particularly in the constriction of resources in fields such as medicine and agriculture.

### Loud Alarms

The problem of scientific personnel strength is one of great complexity. It must suffice here to say that much excessive alarm in this regard has been aroused by conceptually invalid comparisons and by failures to take into account specific demographic fluctuations, including war-caused peaks of delayed education. In general, while the Soviet Union currently has a greater output of first-degree graduates in a number of professional fields, both present total strengths and the outlook a decade ahead is definitely favorable to the United States.

The problem in fact will be one of making available facilities and jobs rather than that of a potential scarcity of human resources.

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