

A New Perspective on Occupational Programs in Central and Eastern European Countries

In Europe, higher education is offered at universities and non-university institutions.

University education is associated with theoretical learning, whereas non-university instruction consists of professional education in applied fields of study at polytechnics or technical institutes.

The need for trained manpower gave rapid rise to the non-university sector, including mid-level training institutions, as most traditional European universities resisted the introduction of professional programs.

Central and east European countries also developed another tier of education which sometimes bridges secondary and post-secondary education and offers short-term post-secondary training similar to the career programs at community colleges in the United States.

Although the community college is a uniquely American institution, comparisons can be made. As originally conceived about three-quarters of a century ago, the

two-year college was meant to satisfy a number of social aims: to serve as an upward extension of secondary schools, to train workers for the nation's expanding industries, and to provide access to higher education by representing the first two years of a four-year liberal arts education.

Changes in employment patterns and shifts in distribution of people among occupations continue to grow at mid-level, increasing the demand for short-term programs both in the U.S. and abroad. Almost all professions, whether technical or managerial, require contact with manual or applied skills at mid-level occu-

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pational ladders. For example, the medical profession can only function with the backing

and assistance of paramedical personnel such as registered nurses, dietitians, physical and occupational therapists, and laboratory technicians. Engineers are supported by draftsmen, surveyors, junior engineers, technicians, and assistants. Lawyers work in tandem with secretaries, administrative assistants, and para-legals. Supportive labor necessary in the computer field is still evolving; however, there is already a clear need for trained technicians and programmers.

East and central European countries peg mid-level post-secondary training institutions, polytechnics and universities in different administrative slots.

While polytechnics and universities are regulated by ministries of higher education, 2- to 2-1/2 year post-secondary occupational programs are under the stewardship of ministries of secondary and professional education, a puzzling concept for

the American admissions officer.

Primarily due to

this bureaucratic division, post-secondary occupational training has been viewed by many as secondary education.

This practice deserves rethinking if programs are compared, and in light of a recent trend to recognize and grant advanced standing to post-secondary training at traditional institutions of higher education, as in the former Soviet republics.

In examining the career programs offered by American community colleges and those offered by post-secondary institutions in central and east Europe and elsewhere, there seems to be a convergence of purpose.

International Trends

UNITED STATES

Generally, the community college serves the community in which it is located, with its students living within commuting distance. Offering reasonable tuition fees, pragmatic curricula and a convenient location, the 1,224 community colleges are an important part of higher education in the United States.

Community colleges also exhibit an innovative spirit in program imple-

mentation by offering courses in libraries, shopping malls, prisons, hospitals, or space donated by local businesses, in addition to formal classroom settings.

Overall, 75 percent of community colleges offer specialized job training for local enterprises and 94 percent provide continuing education for active professionals.

In the United States, as elsewhere, there is some reluctance to accept short-term occu-

pational training for high school graduates as part of higher education. If one keeps in mind, however, that short-term certificates or two-year degrees obtained from community colleges offer a start in higher education and whet the appetite for professional advancement and further education, one has to accept the fact that community colleges are a vital part of higher education.

CONTINUED PAGE 19

Featured: Chile, "Where the Earth Ends" page 9



In their zest to meet the training needs of the local economy, critics say that community colleges are losing sight of traditional education. However, the majority of community colleges offer both transfer programs (A.A. degrees) as well as career programs (A.A.S. degrees). Technical and

occupational career programs are not without intellectual substance, for there is some instruction in liberal arts or of general educational character.

While community colleges offer flexible curricula and are expanding their vocational and professional training programs,

they are also aiming at boosting the preparation of students heading to four-year degree colleges and universities, although career track students do not anticipate receiving transfer credit in transferring to four-year institutions.

BULGARIA

In January 1972, the Council of Ministers in Bulgaria approved the establishment of new two- to three-year technical institutions for secondary school graduates. Post-secondary, occupational training is thereby offered at *poluvissi instituti* (semi-higher institutions) in a variety of occupations such as nursing, forestry, library science, tourism, communication, health sciences, and kindergarten and elementary education (through grade four).

Like other central and east European countries, the Bulgarians recognize the economic necessity of supplying mid-level pro-

fessionally-trained personnel through abbreviated tertiary level programs. The *poluvissi instituti* meet that need, and in scope and intent approximate the aims of community colleges in the United States.

A two-year sample program leading to a diploma as a medical laboratory assistant from a *poluvissi instituti*:

Principles of Philosophy

Physical Education

Latin

Human Anatomy and Physiology

General and Social Hygiene

Health Organization

Training in Specialization

Laboratory Physics

Organic and Inorganic Chemistry

Biological Chemistry

General Pathology and Internal Diseases

Clinical Laboratory

Microbiology, with Microbiological

Research

Sanitary and Hygiene Research

Histology and Histological Examinations

Parasitology

French

THE COMMONWEALTH OF INDEPENDENT STATES

Uchilishcha and *technikumy*: In the tradition of European education, the Soviet system provided university education with emphasis on strictly academic and theoretical learning, and post-secondary, non-university training exemplified by polytechnics, academies or specialized institutes which trained in applied disciplines. *Uchilishcha* and *technikumy* bridge secondary and post-secondary education by offering 3-1/2- to 4-year (for incomplete secondary school graduates) or 2- to 2-1/2-year curricula for secondary school graduates. Upon completion, students acquire a professional or technical qualification. In the present Commonwealth of Independent States, this structure, with minor variations, will no doubt continue for the foreseeable future.

In 1989 there were no less than 4,539 *uchilishcha* and *technikumy* throughout the Soviet republics. *Technikumy* offer programs in highly skilled technical, industrial and engineering technologies as well as in agriculture, business and some fields of applied arts. *Uchilishcha* train students

in pre-school education, nursing, medical technologies and library science.

Although administratively the *uchilishcha* and *technikumy* are supervised by the Ministry of Specialized Secondary and Vocational Education (now part of the State Committee for Public Education at each republic level), these institutions provide post-secondary training. Since 1989, there has been a process of re-classification of some specialized technical institutions into *kolledzhy* (colleges) as it became apparent that the *uchilishcha* and *technikumy* spearheaded the movement to train highly qualified technicians in production, automation and computer-dependent processes in a relatively shorter period of time.

The State Committee for Public Education recognized the fact that (1) the content of *technikum* courses, for example, generally parallels courses of affiliated polytechnics or institutes; that (2) the faculty at such institutions, in most cases, hold graduate degrees; that (3) the *kolledzhy* were prepared to offer a new post-second-

ary diploma, i.e., the title of "junior engineer," and that (4) tertiary level institutions, specifically polytechnics and institutes, were developing articulation agreements to grant transfer credit, of up to two years, toward a five-year diploma program. Largely due to their organization under the Ministry of Specialized Secondary and Vocational Education, the *uchilishcha* and *technikumy* were thought of as secondary institutions; however, they straddle secondary and post-secondary education leading not only to the completion of secondary education but to the acquisition of technician-level skills not unlike those offered at community college programs in the United States.

Kiev Technical School of Railroad Transportation, sample program for electro-mechanical technician:

Political Economy

Elements of Higher Mathematics

Fundamentals of Information Science and

Computers

Drawing

CONTINUED

OCCUPATIONAL PROGRAMS continued

<i>Technical Mechanics</i>	<i>Weightlifting and Transport Installations</i>	<i>Metal Work Practice</i>
<i>General Electrical Engineering, with the Fundamentals of Electronics</i>	<i>Equipment of Enterprises</i>	<i>Mechanical Practice</i>
<i>Metals and Construction Materials</i>	<i>The Fundamentals of Automation of Production</i>	<i>Practicum</i>
<i>Technology of Heat Materials Processing</i>	<i>Electrical Equipment of Enterprises</i>	<i>Technological Practice</i>
<i>Processing by Cutting and Metal-Cutting Tools</i>	<i>Repair and Installation of Equipment</i>	<i>Pre-Diploma Practice</i>
<i>The Fundamentals of Standardization</i>	<i>The Fundamentals of Building Businesses</i>	<i>Soviet Law</i>
<i>The Fundamentals of Thermodynamics and Heat Techniques</i>	<i>Economics, Organization, and Planning of Production</i>	<i>Mathematics (for Electromechanics)</i>
<i>General Technology of Silicates</i>	<i>Labor Safety and Fire Prevention</i>	<i>Physics</i>
<i>Pumps, Compressors and Ventilators</i>	<i>Specialization</i>	<i>Chemistry</i>
	<i>Physical Training</i>	<i>History of Communist Party</i>

CZECHO-SLOVAKIA

Even though the *sredni odborni skoli* (middle school training centers) offer four-year bridge programs which span the last two years of secondary education and lead to the *maturitni* (Maturity Certificate), they also provide two-year programs for those holding the *maturitni*.

These schools offer training in a variety of occupations: agriculture, economics, fine arts, forestry, health sciences, library science, teacher training for elementary grades and technical education leading toward a technician's title. As in other central and east European countries, such institutions are administered by the Minis-

try of Secondary and Professional Education but, measured by community college standards in the United States, they fall within the scope of post-secondary education.

A two-year sample program in physical therapy offered at a middle school for health science in Prague:

Latin
Human Anatomy
Pathological Anatomy and Pathological Physiology
Microbiology, Epidemiology and Hygiene
Internal Medicine

Orthopedics, Traumatology, Surgery and Orthopedic Prosthetics
Neurology, with Pathology of Movement
Kinesiology
Manual Muscle Testing and Goniometry
Therapeutic Physical Education
Physical Therapy
Health Care Management
Patient Care
Physical Education
Pediatrics
Gynecology and Obstetrics
Psychiatry
Psychology and Pedagogy
Practicum

POLAND

A widely known form of education following completion of secondary school in Poland is offered in *szkoly pomaturalne* (post-maturity schools) or *szkoly policealne* (post-lyceum schools). Most popular programs at these 2- to 2-1/2-year institutions are those which prepare workers to be employed in pre-school teaching, health care, agriculture, forestry, and as laboratory technicians as well as a variety of technical occupations, such as drafting, mechanical and electrical technology, etc.

Although clearly post-secondary, as their name implies, the *szkoly pomaturalne* or *szkoly policealne* are under the aegis of the Ministry of Secondary Education.

Szkoly pomaturalne or *szkoly policealne* are distinctly career oriented, preparing students to enter mid-level positions of employment. Should graduates of such institutions decide to continue their education at university level, they do not expect and seldom receive transfer credit. However, the level of education and skills training is clearly of community college scope.

A two-year sample program in hotel technology from a vocational economic school in Krakow:

Russian
English as a Foreign Language

German
Hotel Law and Regulations
Tourist Organization
Hotel Management
Hotel Equipment
Typewriting and Correspondence
Hotel Technology and Work Organization
Accounting and Bookkeeping
Work Safety and Hygiene
Customer Service
Principles of Political Science
Principles of Psychology, Sociology and Work Organization
Physical Education
Practicum

ROMANIA

The *scoli tehnice postmedii* (post-secondary technical schools) or *scoli de specializare postliceala* (post-lyceum special schools) train high school graduates for mid-level professional positions. Since 1968, higher education institutes have been gradually replacing the *scoli*. These institutes, however, continue the mission of the *scoli* by offering two- to three-year programs for mid-level employment in technical fields, health sciences, nursing, elementary education, etc. Further education at university-level institutions is contingent upon the successful passing of en-

trance examinations and graduates of the *scoli postmedii* or *scoli postliceala* do not expect to be granted transfer credit towards a university-level degree.

All other criteria being equal in respect to aims and goals of community college education, these programs attempt to fulfill the same mission in occupational and technical training as do community colleges in the United States.

Two-year sample nursing program from a professional health school in Romania:
Romanian

Mathematics for Nursing
Social & Political Knowledge
Human Anatomy and Physiology
Microbiology and Parasitology
Internal Diseases
Surgical Diseases
Hygiene
Obstetrics and Gynecology
Work Protection
Practical Instruction
Physical Education
Pediatrics
Infectious Diseases
Dermatology and Venereal Diseases

YUGOSLAVIA

United Yugoslavia followed the pattern of other central and east European countries. Training for mid-level skilled workers was offered in post-secondary, short-term programs. Students entering 2-1/2-year post-secondary curricula in Yugoslavia have usually completed Level IV (Grade 12 or its equivalent) of secondary vocational education in various professions and occupations. Enrollment requirements

were regulated by law and by agreements between associations of two-year institutions and republican authorities

Sample program for machine technology at a technical school in Croatia:

Serbo-Croatian or Croato-Serbian
Theory and Practice of Self-Managing Socialism
Mathematics

Physical Education
Economics and Organization of Production
Technical Mechanics
Elements of Materials
Automatization
Technical Design/Elements of Machines
Technology in Business
Professional Technology
Productive Work

CONCLUSION

In educational systems where university education and post-secondary, professional training run on parallel tracks, there are problems for those who want to find a strict equivalence. The equivalency problem is compounded by the fact that transferring from one type of institution to another is generally not possible.

The admissions professional in the United States may be baffled by the fact that, in systems of education where academic institutions are centrally controlled, two-year programs that clearly require the completion of secondary school for admission are administered by Ministries of Secondary and Professional Education. Hence, the notion that such institutions are secondary-level entities has often been promoted. Professional groups as well as individuals working in international and comparative education in the United States who suggest educational equivalencies for col-

lege and university admissions officers have frequently upheld this view. After all, it is contended, graduates of two-year non-university institutions abroad in most instances do not expect, nor do they receive, transfer credit when they apply to continue their education at university-level institutions in their home countries. On the other hand, unless mandated by specific articulation agreements, graduates of community college career programs in the United States who earn an associate of applied arts or science degree seldom receive full transfer credit at four-year institutions. Nevertheless, the community college is an integral and vital part of U.S. higher education.

Administrative barriers between universities and non-university institutions in central and east European countries are slowly being eroded, particularly in technical fields, e.g., former Soviet republics

where transfer credit for *technikum/kolledz* is being selectively granted.

There are no administrative barriers in the educational structure of the United States between the university and non-university sectors. Qualitative criteria aside, all tertiary level institutions in the United States require a high school diploma for admission. Similarly, in all countries under discussion professional institutions require completion of secondary education for admission. As with the community college, their aim is to educate students for mid-level occupational ladders, and notwithstanding their administrative dependency, they deserve to be viewed in terms of their true level and purpose. □

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