

MODELS OF VOCATIONAL TRAINING: ISRAEL AND SWITZERLAND  
AN ANALYTICAL AND INTERPRETIVE COMPARISON

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The educational systems of Israel and Switzerland at the post compulsory stage of schooling (tenth to twelfth school year) are remarkably different as far as student distribution between the vocational and academic sectors is concerned. In Switzerland most students (80-90%) at this stage enter into some form of vocational training and only 10-20% (depending on various cantons) attend academic high schools (Gymnasium, Lycée) leading to the matriculation certificate (Maturität/Maturité). In Israel the distribution of students between those two sectors, the vocational and the academic, is almost even.

But the difference is most remarkable within their vocational education systems. In Switzerland about 90% of the students engaged in vocational training are part of some form of apprenticeship, working with a master-tradesman in a plant or workshop, followed by part time (1-1 1/2 days per week) theoretical and general education in a vocational school. The other 10% attend full-time technical or vocational schools. While in Israel, 80% of those learning a trade, master it in full time vocational secondary schools and only about 20% are enrolled in some form of apprenticeship.

Indeed, the two countries maintain two different models of vocational training. They differ in aim, structure, content, responsibility, finance and control. The reasons for these differences are deeply rooted in their historical, cultural and socio-economic background. In Israel, a new and rapidly developing country which is absorbing immigrants, there were few skilled craftsmen who were able to train apprentices and to supply the skilled labour force needed by industry and commerce. On the other hand, the country is interested in minimizing the cultural and socio-economic gaps between the various immigrant elements in its population (of Asio-African origin and Euro-American) by providing secondary education to most of the youth. In Switzerland, the apprenticeship system is deeply rooted; most of the craftsmen were trained in this way. The senior craftsman is

proud to instruct the young apprentice; the state and the public find apprenticeship the most proper way to train skilled workers as well as educate good citizens throughout the process of industrialization.

Thus, our study has shown that the two countries which are similar to some extent (both are small in area and in population, culturally diversified, lack natural resources, and are economically dependent on highly sophisticated industry and tourism), maintain remarkably different systems of vocational training. The two systems represent actually two alternative models: 1) vocational-theoretical (Israel), and 2) vocational-practical (Switzerland).

The aim of our study is to describe both systems, to analyse and interpret the similarities and differences in the light of the historical, philosophical, cultural, and socio-economic variables of Switzerland and Israel.

#### Vocational Education in Switzerland

The roots of the apprenticeship system in Switzerland can be traced to the Middle Ages (1). Presently, about 90% of the youth in Switzerland, who learn a trade, work as apprentices. Only about 10% learn in full-time vocational schools. Students in apprenticeship outnumber those in academic highschools 3 to 1. (Jahrbuch der Schweiz, 1973; OECD, 1975).

Vocational education in Switzerland is based on federal and cantonal legislation. This is the only educational framework regulated by the "Bund". It is left to the cantons to implement these regulations. The vocational education, in collaboration with the Federal Department of the Economy, the Federal Office of Industry, Arts and Crafts (BIGA/OFIAMT), and with various trade associations (Egger and Blanc, 1974). The aims of vocational education in Switzerland are: "to train apprentices with the skills and knowledge that they will need to perform their duties as skilled workers; to provide them with general education; and to develop their personality and sense of responsibility". (Bundesgesetz über die Berufsbildung, 1972).

All apprentices, including pupils of full-time schools and of industrial schools, are obliged by an apprenticeship contract signed between their parents and their employer. This contract is a legal document which obligates the parties concerned and is mandated by the Vocational Education Law (Bundesgesetz über die Berufsbildung, 1972).

Graduates of all vocational education forms, who are holders of a proficiency certificate may be enrolled in schools for technicians, practical engineers, or foremen. This provision is of immense importance for the high status of apprenticeship in Switzerland. The "Bund" prepares curricula for the entire vocational education system. There is no difference between the curriculum for an apprenticeship school and a full-time school within a certain trade.

Apprenticeship is implemented in different forms: 1) regular apprenticeship - 3 1/2 - 4 days a week working in the plant or workshop and 1 - 1 1/2 days in apprenticeship-school; 2) combined apprenticeship-work in the plant or workshop, in school, and in concentrated practical course (block-release); 3) vocational middle school - 3 days per week working in the plant or workshop, one day in a school for apprentices and one day in a special school for general education; 4) industrial school - both the theoretical and practical lessons are conducted in the plant, or workshop; 5) a full-time vocational school - this school is also included in the apprenticeship system and its graduates are granted an identical certificate (Fähigkeitszeugnis) as they are also producing work while studying, and are paid a premium.

The system operates an elaborate counselling and guidance service, which is maintained both in the school's counsellor offices, and through exploration visits (Schnupperlehre) to plants, factories, and business establishments.

Teachers in the vocational education system are trained in technical schools, universities, and in teachers training institutes (2).

#### Vocational Education in Israel

In the early years of Jewish settlement in Palestine, several full-time vocational schools were established (Rieger, 1945). However, real development took place only after the establishment of the State of Israel in 1948, which was followed by an influx of immigrants and accelerated industrial development. This is reflected in the increase in the number of students in the full-time vocational schools from 2,000 in 1948 to 75,000 in 1979. (Educational Statistics, 1980).

Four different types of vocational education exist in Israel: 1) Vocational secondary schools (full-time); 2) Apprenticeship schools; 3) Industrial schools; 4) Short courses for youth. The

first type is under the control and support of the Ministry of Education and Culture and the three other types are under the control and support of the Ministry of Labour and Social Affairs. These four types differ in their curriculum, duration of training, diploma and, most important, in the socio-economic background of their students (3).

Israel does not have a general and comprehensive vocational education law. The Apprenticeship Law of 1953 is concerned only with the apprenticeship system. There are several educational and youth employment acts but their regulations apply indirectly to vocational education (4).

The aims of vocational education are based on two philosophical approaches: 1) an educational-idealistic approach; and 2) a practical-materialistic approach. The Ministry of Education and Culture defines the aims of vocational education as follows: to prepare a skilled labour force for the needs of industry; to provide the student a general education in order to balance the technological approach with the general humanistic approach; to provide comprehensive educational opportunities by opening differential vocational education trends for different levels and aptitudes of students; and to raise the general educational level of youth as a vital means for social integration (Twenty Years of Vocational Education, 1968). The Ministry of Labour regards vocational education as a function of the labour force policy. It also aims to find the unemployed youngsters and rehabilitate them by social, vocational and employment means (The Department of Vocational Education, 1974). Thus, the rationale of both ministries is "practical-materialistic" as well as "educational-idealistic", providing both technical and social mobility.

The full-time vocational school system is divided into three tracks with different courses of study and diplomas: a) Secondary-Vocational - The proportion of academic studies to vocational is 60:40. Graduates earn a Matriculation Certificate (Bagrut); b) Regular-Vocational - The ratio of academic to vocational studies is 50:50. Students of this course of study are awarded a Final Certificate which does not entitle its holders university admission; they may undertake technicians' courses (grade 13) and in certain cases even engineering studies (grade 14); c) Practical-Vocational - This track teaches a vocation at a practical level and the academic-vocational proportion is 40:60. Its graduates are awarded a Certificate of Completion.

In recent years there is a trend towards the development of "Industrial education centres" (grades 11-12). Students of grade

11 stay 3 days a week at the centre for study and 3 days on the job in industry, while in grade 12 educational activities are assigned one day a week (Report for the years 1979/80-1980/81).

Full-time vocational schools are run by public voluntary organizations. Some schools are operated by municipalities and very few of them by the government. But the Ministry of Education and Culture provides curricula, and is responsible for supervision, final examinations and training of teachers.

The second type of vocational education in Israel - the apprenticeship system - is within the responsibility of the Ministry of Labour and Social Affairs and comprises nearly 20% of all vocational trainees. Regular apprenticeship includes 5 days a week training in a workshop and one day of studies in school. There are new experimental apprenticeship projects in which students work for three days a week in a workshop and spend three days a week in school for apprentices where they receive practical and theoretical training and participate in special social activities within the community. The purpose of this experimental project is cultural, social, and occupational rehabilitation (5).

The third type of vocational education is the industrial school - three days per week in practical training and working in a plant, and three days of general education in the plant's school. Another variation of the industrial school is the inter-industrial school. This school is similar to the industrial school in which the apprentices work in different plants and study the theoretical subjects and general education together in a school for three days a week.

The fourth type of vocational education is one-year training courses in vocational training centres for adolescents (16-17 years old).

The schools for apprentices are operated by various public organizations, but the Ministry of Labour and Social Affairs covers most of the expenses. The Ministry pays one-third to one-half of the expenses for industrial schools with the balance carried by the plant owner and a vocational education organization. After completing the apprenticeship period, apprentices receive a skilled-labourer certificate, "Teudat-Miktzoa". This certificate does not entitle the holder to further studies on a post-secondary level. These four vocational training forms differ in their curriculum, in the scholastic performance of their students and in their socio-economic background.

### Analysis and Interpretation

The comparison between the vocational education systems of Switzerland and Israel shows indeed the existence of two models. In Switzerland almost all vocational education is conducted through apprenticeship, while in Israel most vocational education is carried out in full-time schools. The reasons for this extreme difference might be that Switzerland has long possessed highly developed industries; vocational education developed in a traditional way; and young people were trained by master-craftsmen in their workshops.

Most master-craftsmen are convinced that it is their personal duty and pride to prepare a reservoir of skilled workers for the national economy. Educators in Switzerland feel that the apprenticeship system is the correct way to transmit vocational, social, and cultural values. The educational leadership of Switzerland claims that the country itself cannot afford to maintain a full-time vocational school system for all those who might be interested in vocational training because of the huge expenses involved in building up and maintaining such a system; the loss of thousands of highly skilled workers who will have to leave industry to become instructors would damage the country's economy (Brugger, 1975). Nevertheless, there are some tendencies toward change because more and more youth, after primary school education, are enrolling in academic secondary schools. As a result of this tendency, the academic level of the apprentices is decreasing. The "Federal Committee for Improving Apprenticeship" looked for ways and means to improve apprenticeship and to make it more attractive. Possible methods are: 1) to enlarge the vocational training middle school so that instead of one day per week, the apprentice will attend school for two days; 2) to enlarge the "combined training" (apprenticeship with concentrated practical courses); 3) to open more courses for advanced apprentices in order to prepare them as foremen and for other leading positions in industry; 4) to expand the industrial school system; and 5) to expand the full-time vocational school system to complement apprenticeship and to achieve a better balance between them (Schweizer Blätter für Gewerbe Unterricht, 1974).

The reasons for the development of the full-time vocational schools in Israel are numerous. Israel does not have an industrial tradition since its industry is relatively young. There are very few master-craftsmen who have learned their trade as apprentices in plants workshops and are able and willing to train young people. Industry was developing at an accelerated pace and the demand for skilled workers was great. The Ministry of Education

and Culture was interested in expanding the full-time vocational school system in order to provide learning places for those youngsters who would like to learn a vocation only in school, and not as apprentices; and to provide secondary education for the population of lower socio-economic status in order to minimize the cultural and educational differences and to accelerate social integration. Most parents in Israel wish to provide their children with a full-time secondary education and not to send children of school age to work, even through apprenticeship.

The apprenticeship system in Switzerland plays a dominant role in vocational training, enrolling youngsters of middle intelligence level. In Israel similar youngsters study in full-time vocational schools, which play the dominant role, while the apprenticeship system is training mainly boys and girls of lower intelligence level, children of Oriental (Asia and Africa) Jewish families, from lower socio-economic strata (Kahana and Star, 1973). The apprenticeship system in Israel is becoming a rehabilitation system and socializing agency for marginal youth, mainly of Oriental origin. The tendency of the Ministry of Education and Culture is to regard vocational education as part of secondary education, thereby giving more students the possibility of getting matriculation certificates. The tendency of the Ministry of Labour and Social Affairs is to improve apprenticeship and to make it more attractive for youth who must, or prefer to, learn a trade in a plant, or workshop, and to provide unemployed youngsters with employment, training and education, thus integrating them into mainstream society.

There is a gap between the stated aims and the actual operation and achievements of the two systems. Vocational education in Switzerland, according to its stated aims, emphasises primarily the needs of the student rather than the needs of industry. In practice, however, the vocational education system in Switzerland is preparing skilled workers for industry with the training being carried out in the industry. The industrialists are very active in vocational training, supporting it financially and determining its scope and direction.

Theoretically the vocational education system in Israel, according to both ministries, intends primarily to provide skilled workers for industry. However, in practice, the stress is on general education. The major role of vocational education (in full-time schools) is to provide general secondary education to young people in order to accelerate social integration. The economic aim of preparing skilled workers is of secondary importance. As a matter of fact, the Ministry of Education and Culture is gradually reducing the number of hours in its vocational schools devoted to

vocational training and enlarging the general education program.

### Conclusions

This study has shown remarkable differences between the two vocational education systems of Switzerland and Israel. The differences seem to be of a paradoxical character. A relatively rich and developed country - Switzerland - develops an inexpensive vocational system - Israel - maintains a very expensive vocational education system (full-time vocational schools). Indeed, the two countries maintain two different patterns of vocational training. The differences are in structure, content, responsibility, finance and control, and in numerous other aspects. But the most striking difference is in the role and status of apprenticeship in the two countries. Thus, the two systems represent two optional models of technical and vocational education. The reasons for this phenomenon, as we pointed out in this study, are deeply rooted in the entirely different historical, cultural, and social backgrounds of the two nations. At this stage, it will not be advisable nor useful to attempt to determine which of the two systems is "better" or which of the two models is preferable. Both of them developed organically. Nevertheless, the development of an integrative scheme based on the best of the models, flexible enough to adapt to specific needs of various national systems, should be the sine qua non goal of all those concerned with the future of vocational education.

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### Notes

1. Characterization of apprenticeship in Europe and its historical roots may be found in Magdenburg, 1959, and in Williams, 1963.



2. For a comparative description of teacher training in both countries see: UNESCO, Technical and Vocational Teacher Education and Training, Paris: UNESCO, 1973.
3. For further details and implications see Adler, 1974. A brief description in English of these various types, as well as a cost-effectiveness comparison of them, may be found in Borus, 1977.
4. The relevant acts are: I. Compulsory Education Act, 1949; II. State Education Act, 1953; III. School Inspection Act, 1969; IV. Youth Workers Act, 1953.
5. For details on this experimental program "Centers for Communal Apprenticeship", see Chaim Ben Yakir, "Apprenticeship Systems in West Germany and in Israel". M.A. Thesis directed by Yaacov Iram, School of education, Bar-Ilan University, Ramat-Gan, Israel, 1978.

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