SOME MAIN FEATURES OF COUNTRY PAPERS

Apprenticeship

Because the emphasis of the seminar has been placed on education and training at the technician level, several governments and individuals submitting country papers have regarded the subject of apprenticeship as marginal to the seminar on grounds that it traditionally relates mainly to craft training. However, for the less developed countries where education and training at the technician level is only now being introduced or planned, apprenticeship represents the main function for which there is substantial interplay between employers and training institutions. For any detailed examination of this relationship, legislation such as the Apprenticeship Act and Regulations submitted by Western Samoa and the Apprenticeship Scheme submitted by the Solomon Islands will be of interest. The Apprenticeship Council of Western Samoa includes representatives of industry, including the Director of Works, the President of the Chamber of Commerce, and three members representing employees (but not employers) in the building, engineering and electrical trades. The Solomon Islands (Labour Apprenticeship) Rules 1970 do not specify that the Apprenticeship Board should include representatives of industry. Of interest also is the Hong Kong "Guide to the Apprenticeship Ordinance 1976 and the Apprenticeship Regulation 1976", Appendix D to the Hong Kong country paper (this was not circulated, but copies are available). Also available for reference is a study by Dr Chandrakant, "Apprenticeship: An Analytic Study of Contemporary Developments of Education in Industry", which deals with the history and philosophy of apprenticeship in a number of countries, especially India, but including UK, USSR and USA.

The India country paper describes how the Apprentices Act of 1961 was amended in 1973 to provide for the training of engineering graduates and diploma holders (technicians) as well as of craftsmen, the object being "to provide practical training in industry at the end of theoretical training in educational institutions in order to condition them for gainful employment". This came into force only in August 1975, and has placed new training obligations on employers. Technician apprenticeship alos exists in Sri Lanka, the National Apprenticeship Act of 1971 having provided for control over apprentices at both craft and technician levels.

National Councils

These are an interesting selection, varying in function and "bite". The India paper describes the All-India Council for Technical Education, "the national body established by the Ministry of Education to advise the Central and State Governments on all aspects of improvement and development of technical education including technician education"; commerce and industry are strongly represented. The Bangladesh country paper states that a Council

of Technical and Vocational Education is to be set up as proposed at a Colombo Plan Seminar in 1975, and preliminary steps have been taken. Suggestions are also made in the paper about the functions and composition of such a council. In Fiji there is a National Training Council, a statutory body which has representatives from industry, commerce and government departments, but the paper suggests that this has not yet "bitten" at the technician level because technician courses have so far been geared to overseas schemes. In Singapore there is a National Industrial Training Council responsible for general policy relating to technical education and industrial training; it had sufficient authority to be responsible for the creation of the Technical Education Department as a separate entity within the Ministry of Education in 1968. That Department became the Industrial Training Board in 1973, see also para 4 below. Hong Kong has a Training Council with terms of reference set out in its paper and membership which well illustrates the strength of industrial representation. The Council has a committee on technical training in institutions.

Representation of Industry on Relevant Bodies

Understandably, the most industrialized countries, India, Singapore and Hong Kong, have the most bodies on which industry is represented. In addition to the Training Council, the Hong Kong paper describes the Industry Training Boards, the Polytechnics' Departmental Advisory Committees, and the Polytechnic Board of Governors, and show representation of industry in detail. The India country paper gives information about the All-India Council, and also about Regional Committees, State Boards of Technical Education, Boards of Studies, State Industrial Liaison Boards, and Advisory Councils for polytechnics, on all of which industry is represented. The Singapore paper, in addition to the National Industrial Training Council and the Industrial Training Board, mentions a Central Agency for Industrial Orientation, Trade Advisory Committees, and the ITB's Permanent Standing Committee on Apprenticeship and Trade Testing, as well as the Singapore Technical Institute and other training institutions run by the ITB, on which industry is well represented.

Industrial Training Boards

The scope of such boards varies between countries. In Singapore there now exists a single Board formed to centralize, co-ordinate and intensify industrial training. The Board itself runs training institutions, some general, some specialist - for example, for printing and for hotel and catering work. Other countries have adopted the UK precedent of establishing training boards to identify and provide for training needs industry by industry. In Fij industrial training boards have been set up by the National Training Council with representation from industry and educational institutions, act in an advisory capacity on matters relating to the training needs of industry. In Hong Kong the Industry Training Boards determine the manpower needs of the industry, prescribe job standards, design training programmes, liaise between managements, educational and training institutions and government departments, consider questions of financing industrial training and advise the Training Council on legislation.

Visits and Attachments

There are few references in the country papers to inter-visiting between technical education and industry, either at student or staff level on the

college side or at the level of skilled worker, manager or training officer on the industrial. The India paper mentions a number of co-operative activities which involve visits or attachments, including short-term training for teachers "extending over a period of three or four months, provided to all teachers of polytechnics in a phased manner, in industry". The paper also refers to attempts to promote the use of visiting lecturers and reports that "practising engineers, designers and consultants are serving as part-time faculty in many institutions". Sri Lanka states that there has not been much interaction between institutions and industry, but refers to the exchanges of views between educationists and non-educationists that go on in professional bodies and expresses the view that teachers should make visits to industry along with students for industrial tours. The Fiji paper says that communication between industry and its main technical institute is improving, but that there is not enough involvement of industrial representatives in the affairs of the institute, and that regular industrial visits and staff attachments are being planned.

Sandwich Courses

These also are characteristic of the more industrialized countries, because arrangements are difficult if not impossible where there is not sufficient demand in a small geographical area for particular categories of highly skilled technicians. The India paper mentions that sandwich course training can be provided under the Apprentices Act 1961, as well as training after completion of the educational course, and states that there are 46 sandwich institutions in the country offering technician programmes, with an annual admission capacity of 2,500 students. The Hong Kong paper states that sandwich courses will be offered by the Polytechnic in collaboration with industry or professional institutions, but that it at present runs only one sandwich course, a two-year technician diploma course in yarn manufacture.

Examinations

Details of the structure and methods of functioning of examining bodies have not been given and it is not possible to assess the representation of industry and its power to contribute to the formulation of syllabuses and examinations in any country. The India paper states that the evaluation of students on the basis of an external final examination has been the practice in the polytechnics, but a mixed evaluation system is being developed which combines continuous assessment and external examination; there are both Central and State authorities which contribute to determining the standards and content of what is taught. In Bangladesh there is a Board of Examination for Technical Education which, as in India, ensures that classroom and laboratory work is given due weight alongside the Board's own Part and Part II examinations. Fiji refers to its use of external (in the sense of being non-national) examinations, in this case the City & Guilds of London Institute and New South Wales and New Zealand certificates; but development is in directions more closely related to the needs of Fiji. The Hong Kong paper lists and describes the range of courses run by the Polytechnic and the certificates and diplomas involved.

Manpower Surveys

In India estimates of the demand for technicians are made by the Employment and Manpower Division of the Planning Commission at the Centre and by similar organizations at State level. The Planning Commission is assisted by

the Institute of Applied Manpower Research in making manpower studies and estimates. In Bangladesh manpower surveys are done by the National Manpower Council, Central Statistical Bureau, Labour Department and Planning Commission. In Fiji the Bureau of Statistics, a section within the Ministry of Finance, is responsible for manpower planning in consultation with the Central Planning Office. The Hong Kong paper states that each of the industry training boards is required to determine the manpower needs of the industry concerned and to make recommendations to the Training Council; a third series of industrial manpower surveys conducted by the training boards between 1974 and 1976 surveyed all the ten major industries.

Levy/Grant Systems

Fiji states that its National Training Council is responsible for the administration of a levy/grant system under which employers pay 1% levy of pay-roll to the council which is intended to assist in the cost of training at all levels. The introduction of levy/grant machinery is leading to the employment of training officers by larger firms, and the smaller are pooling resources in group training schemes. In Hong Kong two of the industrial training authorities (for construction and clothing) are empowered to impose a levy on exports of clothing items and on building and civil engineering contractors for the purpose of establishing and running centres to provide basic training. The Training Council was invited to advise whether a levy should be imposed on the industries but decided that, before it could recommend a general levy, the eight remaining industry training boards should be asked to consider the feasibility of training schemes based on levies. The UK Department of Employment has recently issued a consultative document for a scheme which would abolish the levy/grant system in favour of a "collective fund"; copies of the document are available.