QUALITY IN VOCATIONAL EDUCATION AND TRAINING THROUGH DEMAND DRIVEN CURRICULUM DEVELOPMENT - FROM LABOUR MARKET DEMAND VIA TRAINING NEEDS ASSESSMENT TO CURRICULUM DEVELOPMENT

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ABSTRACT

This paper deals with the principles of Labour Demand Survey and Training Need Assessment as a comprehensive approach to Human Resources Development; points-out limitations of various approaches used and presents a case study to enhance the understanding.

Driven by growing concerns about quality of professional education, and especially vocational education and training, and perception that a more competitive international economy demands a higher skilled workforce, demand driven or competency-based curriculum development have moved to the center of vocational education and training reform. It is widely believed that a demand driven curriculum with clearly stated professional competencies is essential for improving quality in Vocational Education and Training (VET).

Labour Demand Surveys and Training Need Assessments are the very essential steps for development of demand driven curricula. The nature and governance of these instruments, used either for the development of training courses at national, regional or institutional level, may differ sharply in form, scope and contents as well as limitations.

The fundamental goal of this paper is: to provide some basic information about vocational education and training systems and the importance of labour market data for the country's education system; to raise some basic questions about preparing and conducting labour market demand studies; to discuss training need assessment as a very essential step in curricula development, and to reflect on general and specific aspects that should be considered during curriculum development.

1. INTRODUCTION

The role of VET in the context of the dynamics and changing demand of the world of work can better be explored through a more comprehensive approach to the overall system of human resources development (HRD). Figure (1) shows the principle human resources development system.
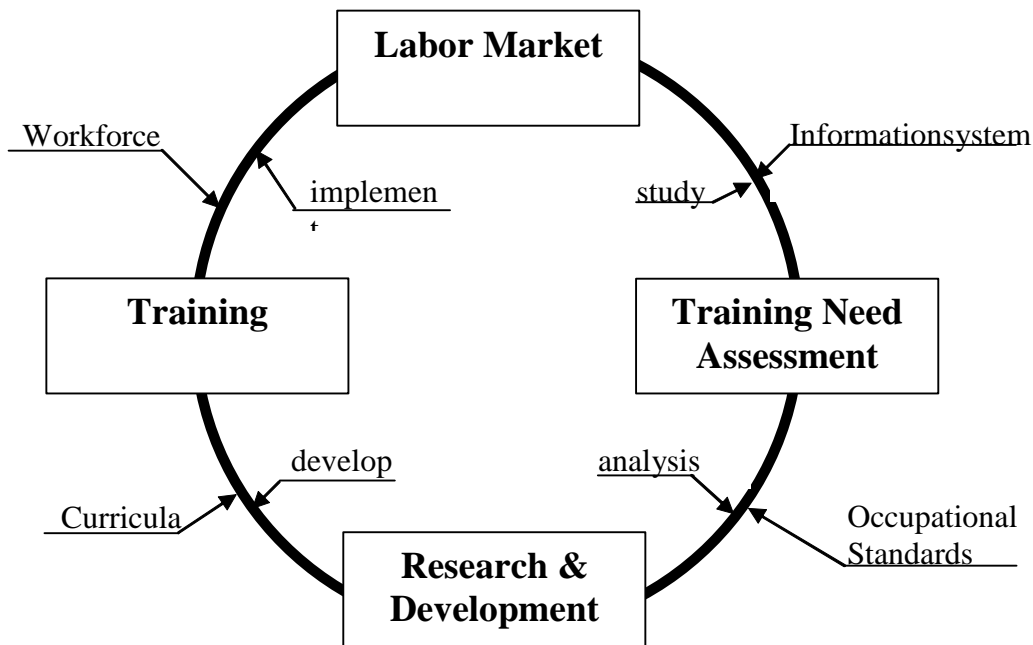
FIGURE 1: HUMAN RESOURCES DEVELOPMENT SYSTEM

Human resources development, which is mainly implemented through the formal and non-formal systems of education, is the concern of both educationalists and economists. This is so because education is recognized both as a social service on the one hand, and an investment and hence economically feasible activity on the other. The existence of a link between education and economic development is mainly the result of labour force needs being translated into (vocational) educational targets and plans.

The relation between education and economic development is a complex one, because there is no strict relationship between occupations and levels or types of education. Consequently, the ability and need to design labour force preparation and development systems based rigidly on the needs of employment requirements are questionable. The complexity of the relationship between education and economy is also due to the fact that education can be both a cause and effect of economic development. This applies in particular to vocational education and training, whose quality, size, standards, and diversification of offerings promote economic development on the one hand, and are strongly influenced by such development and work standards on the other. Therefore in labour force planning, which requires, among other things, the matching of supply and demand, such matching should emphasize interdependence, rather than dependence or independence, as a basic strategy.

Figure (2) shows the position of Human Resources Development and Utilization Systems in general, and VET in particular vis-a-vis the systems of labour force supply, labour force demand, and the supply-demand relationship, within the relevant social, economic and cultural framework.

The criteria used for the evaluation of educational and human resources development strategies and systems frequently reveal the differences in the views of economists and educationalists.
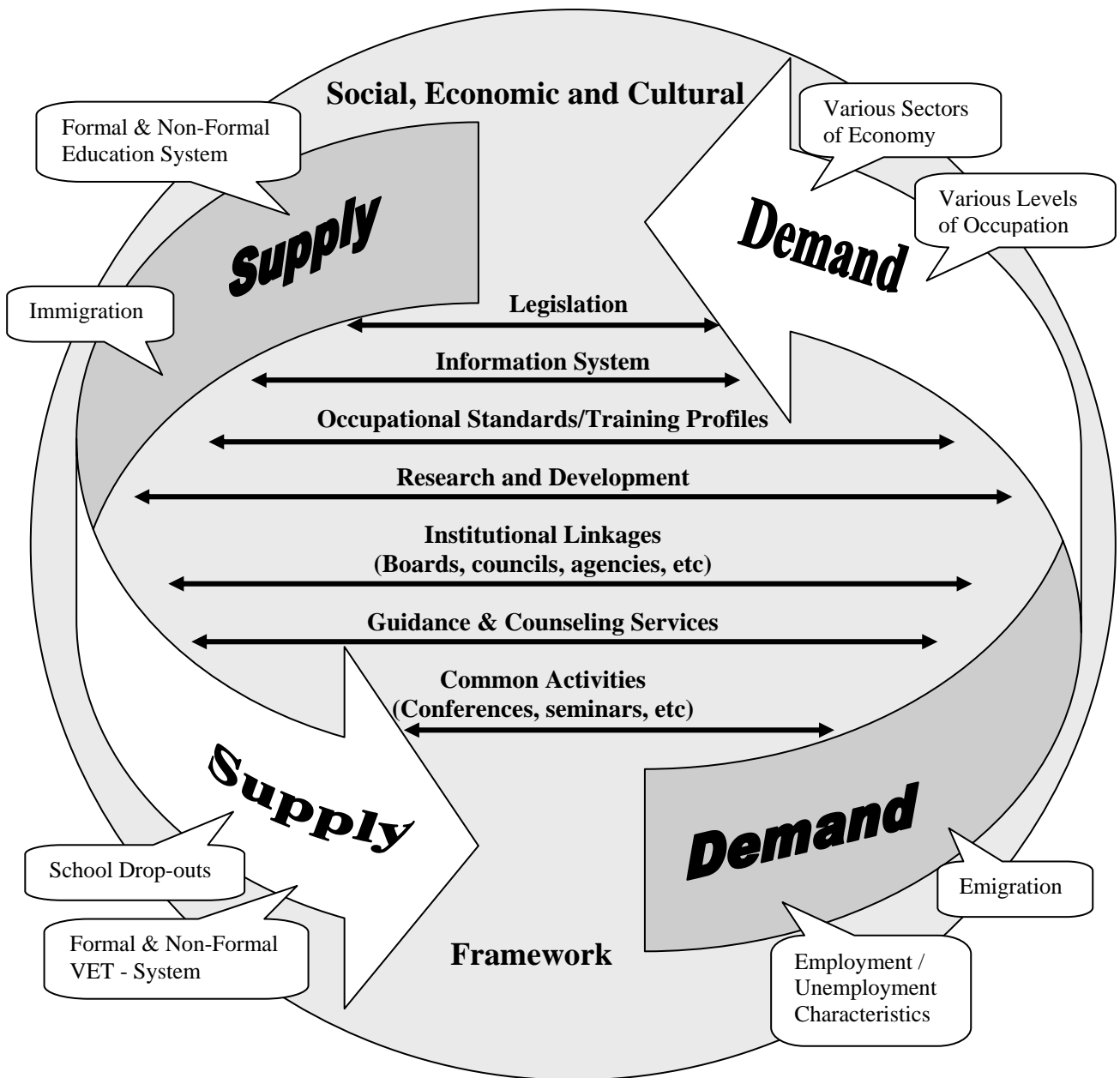
FIGURE 2: HUMAN RESOURCES DEVELOPMENT AND UTILIZATION SYSTEMS

Vocational education and training systems can be evaluated by assessing the ability to secure employment, level of earnings, self and social image, job satisfaction, and the degree of lateral and upward mobility on the individual level; and through productivity levels, quality standards and national income figures on the national levels. It is difficult, for example, to justify high investment in a VET scheme that tends to generate unemployment in certain occupational fields and labour shortage in others; or that leads to unplanned and harmful migration of the labour force from rural to urban areas. On the other hand, VET schemes that tend to prepare a skilled rather than an educated labour force, or do not enhance the status of work and inject positive attitudes towards labour are questionable, too.

2. LABOUR MARKET DEMAND AND LABOUR MARKET FORECAST

During the second half of the last century, methods of long-term projection of requirements for and supply of qualified labour force were subject of intensive research and scientific discussion. This is mainly due to their high political relevance, since any major disturbance or imbalance on the labour market may cause grave social and political frictions due to the fact that:

- surplus of supply means unemployment, and
- unsatisfied demand is limiting economic growth and social welfare.

In order to provide a reliable long-term forecast, especially for the formulation of labour market policies, researchers depend on baseline data. Baseline data may be clustered into areas and arranged according variables, e.g.:

- Economic development (by sector, sub-sector, regional, urban, rural, trends and projections)
- Population (by age band, gender, ethnic status, religion, urban, rural, trends and projections)
- Employment, Unemployment and Vacancies (by industry or business sector, occupation, type e.g. full-time/part-time, age band, gender, ethnic status, religion, urban, rural, trends and projections)
- Education (by educational attainment, qualification of working age population, sector/occupation/type, employers needs, age band, gender, ethnic status, religion, urban, rural, trends and projections)
- Training (by type of training e.g. job-related/general training, level of qualification, sector/occupation/type, age band, gender, ethnic status, religion, urban, rural, trends and projections)

However, researchers in industrialised countries and countries in transition (incl. developing countries) have to face quite different difficulties in projecting/forecasting the labour demand. In industrialised countries usually the following essentials determine the target:

- the output of the multilevel educational system, which can be based on systematic demographic statistics;
- future economic development of economic sectors, which may be forecasted by means of extrapolation due to slowly changing economic structures;
- ambitious research, which can be successfully based on input-output-analysis and complex statistical methods, regression analysis, and broad analysis by economic sector including expert inquiries.

The situation in countries in transition (incl. developing countries) usually is quite different. Researchers have to cope with following facts, which make reliable forecasts often nearly impossible:

- fast changing structures of economic sectors and often also the educational system, therefore limited reliability of trend extrapolations;
- absence of statistical material in appropriate structure corresponding to urging questions;
- absence of sufficient scientific and financial resources to run the needed intensive research program; and,
- dependents on expert inquiries for forecasting, which are time absorbing and expensive and further more scarcely lead to a reliable synthesis

Having these facts in mind we must understand and accept that labour market demand forecasts as basis for educational planning in countries in transition (incl. developing

countries) have to be developed with procedures applied in market research for investment goods, which also suffers from fast changes of structures and lack of statistical information.

In other words, there is no general, formalized method available for labour marked research in countries in transition (incl. developing countries). The quality of results depends from the imagination of the researchers and the quality of their information network, which according to the remaining open questions must be further developed during the research work.

The simplest method of estimating future labour force needs is:

- Establishment surveys (plus inquires with governmental institutions) with regards to their present and future labour force needs, supported by extrapolation of past trends.

2.1. Labour demand surveys

Planning of labor market demand in free market economics is a very delicate task. Labour demand assessment has to consider the quantitative and qualitative aspect. Since the private sector, entrepreneurs, can't be forced to reveal their labour force needs, the assessment depends largely on voluntarily forwarded data. Labour force needs are sensitive data, which may provide information concerning efficiency of workforce, possible expansion or downgrading of business, and rates of employees turnover. Nowadays, statistics plays a very important role in demand assessment. The validity of the assessment has to be carefully reflected. Coverage, sample and sample size are very important quantities, and have to be very well defined. Knowledge concerning the economic structure at national or regional level is essential. Figure 3 shows a simplified flowchart for labour demand assessment and the interrelationship with the given economic structure.
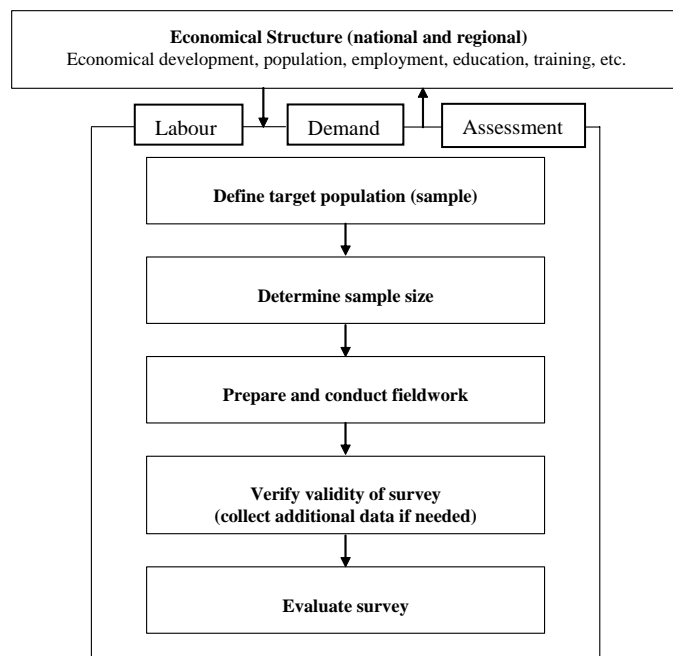
FIGURE 3. STAGES IN LABOUR DEMAND ASSESSMENT

3. PRINCIPLES OF TRAINING NEED ASSESSMENT

A Training Need Assessment is a systematic investigation of a work process to determine the components of the process and the skills and knowledge required to perform the process effectively. The data gathering activities will be centered on describing the job/task/function and defining the related skills/knowledge statements. The data gathering and analysis efforts will be concentrated upon the following:

- identify all performance process components (tasks, duties and responsibilities), common for a job title,
- determine skills/knowledge needed to perform this job, task or function; and
- rank task/competencies and skills/knowledge statements to determine priorities.

Tools most often used for the assessment are variations of questionnaires, interviews, observations, and examination of documents. Common data sources for training need assessment are people (subject-matter experts, job performers, managers/supervisors) and written documentation (job descriptions, system documentation, reports of critical incidents, etc). The output of training need assessment is a list of task and function statements, related skills/knowledge statements, tools and equipment, supplies and materials used. The listed skills and knowledge are the most basic qualifications a performer must posses to enable effective performance. Skills/knowledge statements should be short but precise in describing what is needed to perform a certain activity. The reasons for identifying skills/knowledge requirements are:

- these statements ensure that essential skills and knowledge are not omitted;
- by creating a single unified list it will be avoided that the same skill/knowledge is repeated;
- to discover whether any data is missing;
- skill/knowledge statements form the basis for training profiles or job descriptions;
- skills/knowledge statements form the basis for writing, developing objectives.

The output of training need assessment or information obtained will be used by the curriculum development expert to:

- construct objectives and test items;
- create course materials;
- provide rationales for selecting an instructional design and media;
- provide a basis for validating course pieces/parts during the design process.

A training need assessment process is divided into the following three major parts:

- select the analysis approach;
- analyze the performance process;
- write the analysis report.

4. DEVELOPING CURRICULA BASED ON TRAINING NEED ASSESSMENT

Systematic and structured learning are most important in enhancing the trainees' ability to absorb, understand and/or perform knowledge and skills taught. Flexibility may be as well gained through developing or enhancing the trainees' capability of independent learning. The structure chosen must warrant that preconditions for higher learning are fulfilled, duplications are avoided, and all necessary subjects are included. Fields of specialization should be related to existing fields in the industrial establishment and/or service sector. The call or demand by industry for multi-tasking should not be mixed up with multi-profession. During the teaching-learning-process quality is always more important than quantity.

Curriculum development outputs should be as comprehensive as possible. Generally, the following information should be included:
- Job description or training profile;
- Syllabus and course duration;
- Course description;
- Learning objectives;
- Minimum contents;
- Assessment procedures
- Course outline and lesson plan; and
- Facilities and equipment needed.

Developing curricula based on training need assessment requires a closer look at the limitation of training need assessment. Traditional training need assessments are producing a skills-knowledge inventory needed to perform a certain job. Comparing the obtained assessment results with the requirements needed to develop a curriculum leads to the conclusion that traditional training need assessments are to narrow in scope.

Curricula based on traditional training need assessments cater to very specific jobs, tasks and/or functions without taking care of the fundamental competencies (reading, writing, computation skills, IT and communication skills, etc) needed and the increasingly rapid pace of change in technologies, methods and environment, as well as a growing need for group and collaborative activities.

5. CASE STUDY

To gather first hand information, the Kosovo Chamber of Commerce conducted a "Labour Demand and Training Needs Survey" within its member companies in order to gain knowledge about:
- Activity of enterprises by economic sector;
- Qualifications and occupational activities of employees;
- Foreign language skills of employees;
- Usage of computers in enterprises;
- Training needs of enterprises; and,
- Additional labour force needs of enterprises.

Sample size:

　　Target - 400 enterprises
　　Responds – 300 enterprises

Ownership and activity of responded enterprises:
- Private　　　　　　　63%
- Socially owned　　　　28%
- Public　　　　　　　　6%
- NGO　　　　　　　　　2%
- SH/Holding　　　　　　1%

Outputs and Results to be obtained:

　　Occupational clustering in enterprises, especially to determine existing occupational areas in sectors of interest (Business Administration, Information Technology and Electronics).
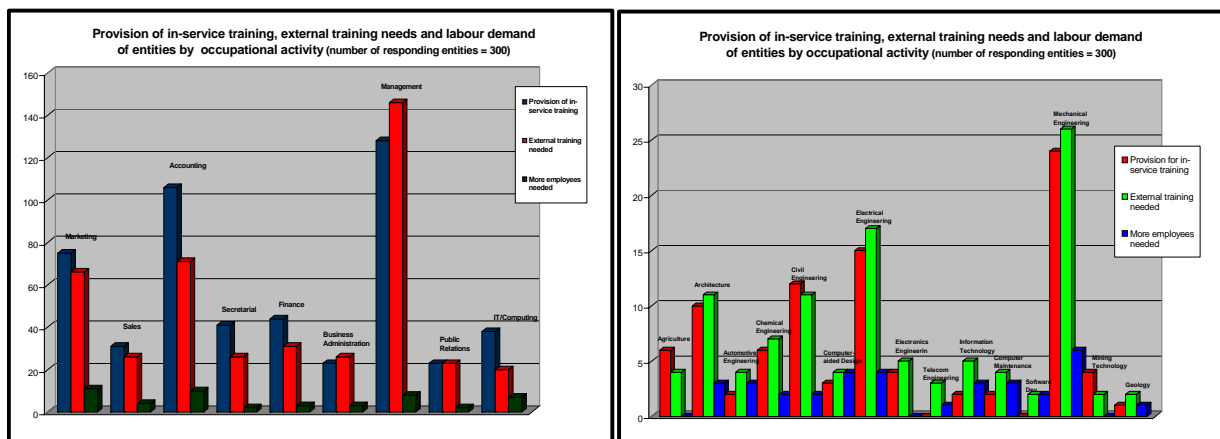
Some results of the survey are shown in figures 4:

FIGURE 4. SOME RESULTS OF LABOUR DEMAND TRAINING NEEDS ASSESSMENT SURVEY

Afterwards training profiles were developed for the sectors of interest:
1. **Electronics & IT** (Office Equipment Repair Technician, Consumer Electronics Technician, Industrial Electronics Technician),
2. **Business Administration** (Administration Assistant, Marketing Assistant, Finance Assistant).

<u>Training Profile contents:</u> Occupational Title, Duration of Training, Field of Activity, Occupational Skills, Particular Requirements, and Occupational Tasks and Functions.

6. CONCLUSIONS

Labour Market Surveys and Training Need Assessments are essential steps for the development of human resources. Training Need Assessments will provide sufficient information for curriculum development and/or course design. However, fundamental competencies have to be considered during curriculum development. It is highly advisable that initial level of target participants and job description or training profile are well established before curriculum development and/or course design. Tools, machines and equipment as well as professional (skill-) standards have to be enumerated during training need assessment to provide the curriculum developer with all information needed for successful development. Job description or training profile should be reviewed and agreed upon by all parties concerned (governmental institutions, employer representatives and employees representatives).

7. REFERENCES

[1]   Mansfield B.: Linking Vocational Education and Training Standards and Employment Requirements, European Training Foundation, Italy 2001.
[2]   Addison-Wesley Publishing Company: The Trainer Library Vol.2 – Planning and Analysis".
[3]   htpp://www.ilo.org/public/English/employment/strat/Impol/publ/nesporov.htm