

Vocational education and training indicators project

EU priorities and objectives related to VET

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particular DGXXII and the European Centre for the Development of Vocational Training (Cedefop). The paper has been elaborated on the basis of the comments made at that meeting, two papers produced by Felix Buchel and a draft article produced by Pascaline Descy and Sven-Age Westphalen entitled 'Measuring the effectiveness of training'.

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1 Introduction

The overall aim of this project is to develop a set of indicators that will enable an improvement in the understanding of the effectiveness of vocational education and training. For the purposes of this project, effectiveness will be considered from the point of view of public authorities, enterprises and individuals within an overall framework of EU priorities. Once established, the indicators could be derived from data obtained via statistical surveys such as the Vocational Education and Training (VET) survey, the Continuing Vocational Training Survey (CVTS), the Labour Force Survey (LFS) or the European Community Household Panel (ECHP) survey. The indicators themselves would be at Member State level and European Union level.

Whilst it is necessary to decide in broad terms what outcome measures should be used to assess effectiveness (i.e. dependent variables such as improved skill levels) and those factors that may have an impact on the outcome measures (i.e. independent variables such as number of hours of training), there is also a need to have a conceptual framework to guide the choice of indicators selected.

A similar approach was used in relation to the Community educational indicators project in which a number of policy domains were identified to assist with the selection of statistical indicators. In the current project, however, the aims - in terms of producing indicators that relate to the effectiveness of training - are more ambitious than those of either the Community educational indicators project, or indeed the OECD project on international educational indicators.

This paper is divided into four main sections. Section 2 outlines current conceptions of statistical indicators. Section 3 provides a conceptual framework for the investigation of the effectiveness of VET and is subdivided into three parts; first, relevant VET policy issues are outlined; second, the various types of VET are described; and third, the concept of training effectiveness is discussed. Section 4 outlines the current statistical indicators concerned with training published by the European Commission and the data collection exercises undertaken.

2 What are statistical indicators?

Statistics unlike indicators are purely descriptive; so, for example, the total number of trainees enrolled on a programme is an example of a statistic. Indicators on the other hand are generally conceptualised as having some reference point. So for example, the percentage of a particular age group entering initial vocational education and training is an example of an indicator. Indicators unlike raw statistics can assist with making a range of different sorts of comparisons as a result of having a common point of reference. As Nuttall (1992) comments:

‘An educational indicator tells us something about the performance or behaviour of an education system and can be used to inform decision-making. Not all education statistics qualify as indicators...To be an indicator, an education statistic must have a reference point against which it can be judged. Usually the reference point is some socially-agreed upon

standard ..., a past value ..., or a comparison across schools, regions or nations.’ (Nuttall, 1992, p.14)

Further work on the concept of an indicator has been undertaken by van den Berghe (1997) who distinguishes between four types of indicators – descriptive indicators, management and policy indicators, performance indicators and quality indicators (a subset of performance indicators). Indicators that are linked to the achievement of particular goals or objectives can be seen as a special category of performance indicators.

Almost all models of educational indicators adopt an approach of inputs, process and outputs. Any comprehensive set of training indicators needs to include all of these. There is also a need, however, for an additional component (Descy and Westphalen, 1998) namely that of longer-term outcomes or impacts.

It should be stressed that the distinction between short-term outputs and longer-term outcomes or effects is also relevant in evaluation more generally:

‘Evaluation methodology usually distinguishes between inputs, outputs and outcomes. Inputs refer to the resources deployed in the programme. Outputs are the specific interventions obtained from these resources, while outcomes are the effects that the outputs have on the underlying problem. For example, in a training programme, inputs are the financial costs of the resources used, while outputs might be the number of training places or training months purchased from these resources. Outcomes or impacts – a more difficult thing to measure – might be lower unemployment in the area either as a whole or among certain specific groups.’ (Kleinman, West and Sparkes, 1998)

3 Developing a conceptual framework

3.1 Policy relevant issues

Recent documents produced by the European Commission and EU policy statements have stressed the importance of VET. The priorities for training defined in the different publications are a reference point for establishing indicators. Two overarching priorities run through the various documents:

- (a) contribution to the construction of a Europe of knowledge – the development of knowledge, citizenship and competences;
- (b) support for employment policies – encouraging entrepreneurship, promoting the capacity for a successful transition into the labour market (employability), promoting the capacity for adaptation (adaptability) and reinforcing equal opportunities.

Within these two overarching areas, it is possible to operationalise nine more specific priorities (and associated domains) at EU level.

- (a) improving lifelong access to education and training for all citizens ('lifelong learning');
- (b) encouraging the acquisition of qualifications and competences that promote adaptability ('adaptability');
- (c) encouraging the acquisition of qualifications and competences that promote innovation ('innovation');
- (d) promoting the development of linguistic competences ('linguistic competences');

- (e) promoting mobility ('mobility');
- (f) promoting investment in training ('investment in training');
- (g) supporting the transition of young people into work ('transition to work');
- (h) reducing social exclusion ('reduce social exclusion');
- (i) improving the quality of training ('quality of training').

These priorities provide an overall framework that will enable objectives of training to be identified and proposals for statistical indicators to be made. It should be noted, however, that the priorities of 'lifelong learning' and 'innovation' are overarching priorities whilst the remainder can be more specifically linked to specific training objectives.

Examples of the ways in which EU documents and policies are addressing these priority domains are provided next.

Domain 1: Lifelong learning

Lifelong learning emerges as a priority in EU reports. It is frequently combined with other thematic priorities and can be considered to be a transversal theme.

Each Member State will review and, where appropriate, refocus its benefit and tax system: to develop a policy for active ageing, encompassing appropriate measures such as maintaining working capacity, lifelong learning ... (Guideline No 4: Proposal for guidelines for Member States employment policies (European Commission, DG5, 1999))

The objectives of the programme [Leonardo da Vinci second phase] shall be to: improve the quality of, and access to, continuing vocational training and lifelong acquisition of skills and competences....'
(Council Decision, 26 April 1999).

'There must be access to training throughout life' (White paper: Teaching and learning, 1995, p. 36).

'Lifelong education is ... the overall objective ... each country should be aiming towards universally accessible advanced vocational training' (White paper: Growth, competitiveness, employment, 1994, p. 15-16).

Domain 2: Adaptability

A key issue in relation to adaptability is the importance of information and communications technology, as a core skill. This is seen to be fundamental to employability in general.

In order to reinforce the development of a skilled and adaptable workforce, both Member States and the social partners will endeavour to develop possibilities for lifelong learning, particularly in the fields of information and communications technologies ... (Guideline. 6: Proposal for guidelines for Member States employment policies (European Commission, DG5, 1999))

The social partners are urged to agree and implement a process in order to modernise the organisation of work ... Subjects to be covered may, for example, include training and retraining ... and access to training and career breaks ...(Guideline 16: Proposal for guidelines for Member States employment policies (European Commission, DG5, 1999))

The objectives of the programme [Leonardo da Vinci second phase] shall be to: improve the quality of, and access to, continuing vocational training and lifelong acquisition of skills and competences with a view to increasing and developing adaptability, particularly in order to consolidate technological and organisational change.’ (Council Decision, 26 April 1999).

‘Competence: Developing employability through the acquisition of competencies ... This means that it is necessary to provide on a life-long basis creativity, flexibility, adaptability, the ability to ‘learn to learn’ and to solve problems’ (Towards a Europe of knowledge, 1997, p. 3).

‘Certain ‘key skills’ are central to a number of different occupations ... Basic training in information

technology ... has ... become a necessity' (White paper: Teaching and learning, 1995, p. 31).

In the 1997 'Policy guidelines' produced by the European Centre for the Development of Vocational Training (Cedefop), the thematic priority 'promoting competences and lifelong learning' has a focus on: 'identifying and encouraging the acquisition of core/key skills and qualifications' (Cedefop, 1997, p. 9).

'In order to review skill levels within enterprises, Member States should refocus their State Aid policies on upgrading the labour force...' (Proposal for guidelines for Member States employment policies, 1997, p. 6).

'Social aptitudes concern inter-personal skills, i.e. behaviour at work and a whole range of skills corresponding to the level of responsibility held such as the ability to cooperate and work as part of a team, creativeness and the quest for quality' (White paper: Teaching and learning, 1995, p. 31).

Domain 3: Innovation

Innovation is related to adaptability. It has a focus not only on technological skills, but also organisational skills that are conducive to innovation.

'The objectives of the programme [Leonardo da Vinci second phase] shall be to: promote and reinforce the contribution of vocational training to the process of innovation, with a view to improving competitiveness and entrepreneurship, also in view of new employment possibilities...' (Council Decision, 26 April 1999).

'The emphasis should be ... on a set of skills (technological, social and organisational) which are conducive to innovation' (Towards a Europe of knowledge, 1997, p. 1).

'[Transnational mobility] ... opens the door to the transfer of professional skills and knowledge, particularly in innovative areas such as new technologies, new management methods and organisation of work' (Education, training and research: The obstacles to transnational mobility, 1996, p. 11).

Domain 4: Linguistic competences

The multilingual nature of the EU means that competence in foreign languages is an important feature in terms of EU priorities, given the single market and impending monetary union. In this context the focus on learning foreign languages is seen as central.

The objectives of the programme [Leonardo da Vinci second phase] shall be pursued by the following

measures ... support for the promotion of language competences, including less widely used and taught languages, and understanding of different cultures in the context of vocational training ('language competences') ... (Council Decision, 26 April 1999).

'The European Commission believes that it is necessary to make proficiency in at least two foreign languages at school a priority...' (White paper: Teaching and learning, 1995, p. 31).

'Vocational training - initial and continuing - must place great stress on language learning...' (White paper: Teaching and learning, 1995, p. 67).

'Learning at least two Community languages has become a precondition if citizens of the European Union are to benefit from occupational and personal opportunities open to them in the single market (Green paper 'Education, training and research: the obstacles to transnational mobility, 1996, p. 30).

Domain 5: Mobility

Mobility has an important profile in terms of EU priorities.

The objectives of the programme [Leonardo da Vinci second phase] shall be pursued by the following measures ... support for the transnational mobility of people undergoing vocational training, especially young people and those responsible for training ('Mobility')' (Council Decision, 26 April 1999).

'[Transnational mobility] ... opens the door to the transfer of professional skills and knowledge, particularly in innovative areas such as new technologies, new management methods and organisation of work' (Education, training and research: the obstacles to transnational mobility, 1996, p. 11).

'An exchange programme for young apprentices should be developed rapidly' (Agenda 2000, 1995, p. 19).

Domain 6: Investment in training

A recurrent theme in documents produced by the Commission is the need for greater investment by governments, enterprises and individuals in training.

In order to renew skill levels within enterprises Member States will: reexamine the obstacles, in particular tax obstacles, to investment in human resources and possibly provide for tax or other incentives for the development of in-house training... (Guideline 18: Proposal for guidelines for Member States employment policies (European Commission, DG5, 1999))

Member States will encourage the development of self-employment by ... promoting training for

entrepreneurship ...(*Guideline 11: Proposal for guidelines for Member States employment policies (European Commission, DG5, 1999)*)

'Policy changes are needed to enhance the capacity and willingness of enterprises to invest and to give individuals the opportunity to meet the ever-growing demand for new skills and versatility in the face of growing technological change' (Proposal for guidelines for Member States employment policies, 1997, p. 1).

'A training and learning culture needs to be stimulated at company level: employees must be able to train continually, their efforts must be rewarded and their practical experience in enterprises should be valorised; the company's aims in terms of the development of knowledge and qualifications of the workforce should be clearly stated; company employees involved in training (in particular mentors) should have greater support and recognition within the company' (Study group on education and training, 1997, pp. 80-81).

Under thematic priority 2, 'Monitoring developments in vocational education and training in the Member States' a focus of the work of Cedefop will be on: 'analysing the ways in which investment in people is promoted (including expenditure on training by governments, enterprises and individuals...)' (Cedefop policy guidelines, 1997, p. 11).

Treat material investment and investment in training on an equal basis (White paper on teaching and learning, 1995).

A priority task is to consolidate the cost effectiveness of public expenditure in vocational training (White paper on teaching and learning, 1995). The need for reliable information on private funding (households, companies, etc.) is also raised.

Domain 7: Transition to work

The need to improve the transition from school to work is a focus in a number of EU documents and is inextricably linked with employability. The issue has been addressed most recently in the Luxembourg Extraordinary European Council Meeting on Employment (1997).

The objectives of the programme [Leonardo da Vinci second phase] shall be to: improve the skills and competences of people, especially young people, in initial vocational training at all levels; this may be achieved inter-alia through work-linked vocational training and apprenticeship with a view to promoting employability and facilitating vocational integration and reintegration (Council Decision, 26 April 1999).

Each Member State will: improve the quality of their school systems in order to reduce substantially the number of young people who drop out of the school system early. Particular attention (Guideline 7: Proposal for guidelines for Member States employment policies (European Commission, DG5, 1999))

'Employment prospects are poor for young people who leave the school system without having acquired the aptitudes required for entering the job market. Member States will therefore: improve the quality of their school systems in order to reduce substantially the number of young people who drop out of the school system early; make sure they equip young people with greater ability to adapt to technological and economic changes and with skills relevant to the labour market, where appropriate by implementing or developing apprenticeship training' (Luxembourg Presidency conclusions, 1997, p. 11).

Domain 8: Reduce social exclusion

The domain of social exclusion is central to EU priorities in the field of vocational education and training. Related to this is the issue of equal opportunities. There are several strands to the domain; first, there are priorities designed to improve training opportunities for the unemployed; second, training for specific target groups is addressed; and third, the encouragement of basic skills and new technologies is stressed.

Training for specific target groups

There is a need 'to promote equal access to education for men and women alike, and to ensure that disadvantaged groups (rural communities, the elderly, ethnic minorities and immigrants) do not become second-class citizens as regards access to the new technologies and opportunities for learning' (EU Committee of the Regions, September 1995, reported in White paper: Teaching and learning, p. 37).

Each Member State will give special attention to the needs of the disabled, ethnic minorities and other groups and individuals who may be disadvantaged, and develop appropriate forms of preventive and active policies to promote their integration into the labour market (Guideline 9: Proposal for guidelines for Member States employment policies (European Commission, DG5, 1999))

Those returning to the labour market after an absence may have outmoded skills and experience difficulty in gaining access to training... The Member States will: give specific attention to women, and men considering a return to the paid workforce after an absence ...(Guideline 22: Proposal for guidelines for Member States employment policies (European Commission, DG5, 1999))

'Providing individual learning modes is important for lifelong learning and is especially useful as a tool to overcome exclusion of various sorts (e.g. rural dispersion, people with disabilities, people at home caring for children or elderly relatives, people lacking the confidence to learn in a group or to travel to group education). Individual lifelong learning opportunities are also especially important for women ... It is also important for the increasing group of part-time and casual/fixed contract employees together with those on self-employed or subsidiary contracts...' (Study group on education and training, 1997, p. 117).

Training in basic skills and ICT

The objectives of the programme [Leonardo da Vinci second phase] shall be to: improve the quality of, and access to, continuing vocational training and lifelong acquisition of skills and competences with a view to increasing and developing adaptability, particularly in order to consolidate technological and organisational change...’ (Council Decision, 26 April 1999).

Each Member State will: make sure they equip young people with greater ability to adapt to technological and economic changes and with skills relevant to the labour market. Particular attention should be given to the development and modernisation of the apprenticeship systems, to developing appropriate training for the acquisition of computer literacy skills by students and teachers as well as to equipping schools with computer equipment and facilitating student access to the Internet by the end of 2002 (Guideline 8: Proposal for guidelines for Member States employment policies (European Commission, DG5, 1999)).

In carrying out the measures referred to [in the Council Decision relating to the second phase of Leonardo da Vinci] specific support for transnational actions shall be available for the promotion and use of information and communications technologies (ICT) in vocational training ... (Council Decision, 26 April 1999).

‘It is becoming increasingly clear that those not integrated into society should receive special attention so as to give them basic skills...’ (White paper: Teaching and learning, p. 47).

‘The Commission believes that there remains too much inequality in the access to training ... and that the possibilities offered by the information society must be fully used to reduce them’ (White paper: Teaching and learning, p. 37).

'Policy implementation must focus on: [making] greater use of IT in the training of adults whether employed or unemployed ... bringing specific provision to girls and women in order to equalise their IT access and skills' (Study group on education and training, 1997, p. 120).

Cedefop's 'policy guidelines' (1997) note that the work of Cedefop will focus on: 'Analysing the extent that training supply meets demand (including the extent to which training provision meets the needs of young people, adults, workers in small and medium sized enterprises, temporary and part-time workers, as well as those at a disadvantage in the labour market, and how it contributes towards the development of equal opportunities)' (Cedefop policy guidelines, 1997, p. 11).

Domain 9: Improve the quality of training

The issue of the quality of training is fundamental to VET policy in the EU. It is important to note that it is not easy to measure quality, although 'outcomes' of training is one way in which the concept can be operationalised.

The objectives of the programme [Leonardo da Vinci second phase] shall be to: improve the quality of, and access to, continuing vocational training and lifelong acquisition of skills and competences...'
(Council Decision, 26 April 1999).

Each Member State will: improve the quality of their school systems in order to reduce substantially the number of young people who drop out of the school system early. Particular attention should also be given to young people with learning difficulties (Guideline 7: Proposal for guidelines for Member States employment policies (European Commission, DG5, 1999))

3.2 Types of VET

The area of vocational education and training (VET) has a high profile within the EU. However, it is important to stress that there is no internationally accepted set of definitions of types of VET. Despite this lack of international consensus, three main types of VET can be distinguished (Descy and Westphalen, 1998):

- (a) initial vocational education and training (IVT);
- (b) continuing vocational education and training (CVT);
- (c) vocational education and training for the unemployed (UVT).

IVT is provided for young people from the age of 15/16 years after compulsory school, but prior to entering work. It is generally provided in school-based or in combined school and work-based (apprenticeship) programmes. It is financed, in the main, through public funds and to a lesser extent by enterprises, on a compulsory or voluntary basis. If higher education is classified within the overall framework of IVT,¹ the individual also contributes to the funding.

CVT is all kinds of education and training provided for adults in the labour market leading to personal, flexible and/or vocational competencies. It is not necessarily linked to work, but is part-time and not primarily related to leisure time interests. *CVT* is funded by the EU, by public authorities, by social partners, by enterprises and by individuals. Funding depends on the particular type of training, policies at a national and/or regional level, policies and practices of enterprises, and individuals' desire and ability to pay.

¹ In the UK, for example, one in three new entrants to the labour market are graduates (DfEE, 1998).

UVT is training provided for persons who are a) without work, b) currently available for work and c) seeking work (ILO, 1990). It is funded primarily by governments and, to a lesser extent by the EU, depending on the country (through, for example, the European Social Fund). There may be funds from regions/enterprises but this will vary between Member States. Individuals will rarely be in a position to fund this type of training themselves. Table 1 shows the funding bodies for various types of training.

Table 1 Funding bodies of different types of training

FUNDING BODY	IVT	CVT	UVT
European	No	Yes	Yes
Public sector – national	Yes	Yes/No	Yes
Public sector – regional/local	Yes/No	Yes/No	Yes/No
Social partners	No	Yes/No	No
Enterprise	Yes/No	Yes/No	Yes/No
Individual	Yes/No	Yes/No	No

3.3 Effectiveness for whom?

‘Effectiveness is not a neutral term ... criteria of effectiveness will be the subject of political debate’. (Firestone, 1991; see Sammons, 1996). In school effectiveness research, for example, there is a focus on the differences between schools in their overall effectiveness in promoting pupils’ academic attainments. Sammons (1996) notes that an effective school is one that ‘adds extra value to its

students' outcomes in comparison with similar schools serving similar intakes' (p. 117). She also reports that:

'Recent research demonstrates that judgements about schools' effectiveness needs to make specific reference to questions such as:

- Effective in promoting which outcomes?
- Effective over what time period?
- Effective for whom?

School effectiveness is perhaps best seen as a relative term which is dependent upon time, outcome and student group' (p.143).

In relation to training, as opposed to education, one way of looking at the issue of effectiveness is in terms of whether there are 'identifiable economic outcomes'. A broader definition still focuses on the extent to which training 'meets its objectives'. Descy and Westphalen (1998) define this more precisely as training that 'meets its objectives as defined by its funding body'. This is a useful definition since it is undoubtedly the funding body that ultimately decides whether or not training will be made available.

Whilst this is a useful heuristic, there are two points to bear in mind. First, it is not always the case that the funders' precise objectives are transparent, although their general aims may be. Second, whilst the funders may have objectives, it is only by relating the extent to which these are perceived to have been met – by the various stakeholders (e.g. individuals, enterprises) – that one can really

understand the extent to which the training has been effective.² There may also be unintended consequences of training that aid an individual's employability – for example, improving 'soft skills' (see Section 4) such as an individual's self-esteem, motivation or ability to work in a team.

Given this focus on the objectives of funders and given the various bodies that fund training, we can identify five different levels of analysis in relation to effectiveness:

- (a) European;
- (b) national;
- (c) regional;
- (d) enterprises;
- (e) individuals.

The effectiveness of training may be considered at each of these levels. At each level, different types of training will have different objectives, and hence, different statistical indicators are likely to be needed. This framework will guide the proposed indicators in Section 5.

3.4 Different types of skills

Skills can be of varying types: general, vocational or job related and personal/social. These have been discussed by Descy and Westphalen (1998) and are summarised below.

Skills in the 'general' category refer to educational or cognitive competences; those in the 'vocational' category refer to skill-based technical competences; those in the 'personal/social'

² For example, a government may fund training for an individual with a literacy course integral to it. Whilst the objective of the funding body may be to equip an individual with a particular level of literacy this may not be seen as adequate in the labour market, where employers demand higher skill levels (e.g. West et al., 1993).

category refer to social and behavioural competences. The 'personal/social' category is the most elusive of these three categories. Nevertheless, it is of considerable importance, particularly in terms of initial entry or reentry into the labour market.

The American researchers Moss and Tilly (1995) use the terms 'soft' and 'hard' skills instead of the present terminology of personal/social skills and job-related skills. Their work indicates that employers generally stress soft skills more than technical skills in recruitment. They go on to distinguish 'soft' skills from 'hard' skills such as literacy and numeracy at the low end, and more specific technical skills higher up the scale. On the basis of interviews with employers, they identified two clusters of soft skills that are important to employers:

'The first, interaction, has to do with ability to interact with customers, and coworkers. This cluster includes friendliness, teamwork, ability to fit in, spoken communication skills, and appearance and attire. A second cluster we call motivation, taking in characteristics such as enthusiasm, positive work attitude, commitment, dependability, and willingness to learn.'

(Moss and Tilly, 1995)

In their sample of American employers, 86% included soft skills in their list of the most important hiring criteria, and almost half put soft skills first in that list (see also Kleinman et al., 1998). Work undertaken with employers in England by Kleinman et al. (1998) also reveals the importance of personal and social skills for individuals about to enter or reenter the labour market.

Although they are not readily quantifiable, the role of these soft skills cannot be underestimated; this is particularly so for those who are undertaking IVT and UVT. Competences such as those proposed by Canning (1996) and Kleinman et al. (1998) are important to employers: demonstration of appropriate appearance, personal hygiene, time management, regular attendance, punctuality,

reliability and enthusiasm. Other attributes that could be categorised here relate to basic competences, such as understanding verbal communications, performing mathematical calculations, constructing a curriculum vitae, conducting a job search, developing a letter of application, using the telephone to arrange an interview, completing application forms, completing employment tests, completing a job interview. Further work needs to be undertaken to establish the feasibility of quantifying such competences.

Finally, the category of personal/social skills is one that employers may seek to address. Specific objectives of training may include improving the motivation, self-esteem, self-confidence and capacity for teamwork amongst employees.

4 Current surveys and statistical indicators

At present there are a number of EU surveys designed to obtain information about vocational education and training. The key surveys are the Vocational Education and Training (VET) survey of Member States, the Continuing Vocational Training Survey (CVTS) and the Labour Force Survey (LFS). In addition, there is the European Community Household Panel (ECHP) survey. Each of these surveys has different aims and objectives and data of different types are collected. In the paragraphs that follow the focus is on the VET survey, CVTS and LFS.

The VET survey of Member States is based on administrative data and seeks information on a range of different issues including: the types of vocational education and training programmes; the theoretical age of participants; entry requirements; the learning context (educational/training institution, enterprise, distance learning); the duration of training; the hours of training; the sources

of funds; the criteria for completion of programme (examination, attendance etc.); the number of participants on the programme and the number of ‘graduates’ of training programmes.

The CVTS provides information about the continuing training provided by enterprises - including the number of employees participating; time spent on courses; occupational category of participants; subject of training (e.g. management and organisational techniques, languages); type of provider; costs; type of training (courses, planned periods of training in the work situation, conferences/workshops/lectures/seminars, job-rotation/secondments, self-learning through open and distance learning/video or audio tapes etc.). The CVTS concerns training throughout one year. It does not, however, cover the whole economy - enterprises with less than ten employees are excluded as are certain sectors (e.g. agriculture, public administration, education and health). The CVTS data are obtained from employers.

The EU Labour Force Survey (LFS) is a household survey that provides information on the highest level of education and training attained and training received in the four weeks prior to the survey being undertaken. LFS data are useful for comparing the training received by certain groups of individuals. The information is obtained from individuals.

Statistical indicators on education and training are produced by the European Commission in *Key data on vocational training in the European Union* and are derived from the above surveys. The indicators cover the following:

- (a) educational attainment by age group;
- (b) employment and unemployment rates by educational attainment (for different age groups);
- (c) young people between 16 and 18 in education and not in education;
- (d) unemployment rates between those with basic education and with additional vocational training;

- (e) proportion of students in vocational education (ISCED 3);
- (f) proportion of population in IVT (by age group);
- (g) distribution of IVT by age group and by gender;
- (h) where IVT takes place (workplace, mainly workplace, education/training institution, mainly education/training institution, time shared between the two);
- (i) duration of IVT programmes;
- (j) distribution of IVT by ISCED level;
- (k) access to programmes of a higher level from IVT (theoretical and type of access);
- (l) enterprises offering CVT (and by size of enterprise);
- (m) enterprises offering CVT by sector;
- (n) forms of CVT offered;
- (o) subjects of CVT (e.g. production, data management, languages);
- (p) costs of CVT courses;
- (q) participation rates in CVT by enterprise size;
- (r) participation rates in CVT courses by sector;
- (s) training amongst self employed compared with employed in past four weeks (by education level, occupation, age, sex).

Finally, it should be noted that there are other international surveys that might provide useful data, and can, perhaps, be related to VET policies. For example, the conceptual framework used for the International Adult Literacy Survey (IALS) could be examined as a source of data on literacy (notwithstanding concerns that have been raised about the IALS by some Member States).

5 Training effectiveness indicators

5.1 Introduction

The measurement of the effectiveness of training is not simple. As already noted, training is of many different types and levels. Whilst it might be assumed that more training is ‘better’ and that it improves employability, improved information is needed to establish if it is better and if so, in what ways and for whom. In the present context, focus is on the effectiveness of three different types of training – IVT, CVT and UVT. For each of these different types of training, effectiveness can be examined in terms of the extent to which it meets the objectives of the various funding bodies at the European, national, regional, enterprise and individual levels (as relevant).

It should also be stressed that the effectiveness of training does not necessarily have clear outcomes. Training may meet the objectives of the funding body, for example, in terms of equipping an individual with qualifications, but there are supply side barriers that have to be considered – for example, recruitment policies may militate against successful outcomes in terms of gaining employment (see Kleinman et al., 1998). This may be particularly likely in relation to those from disadvantaged backgrounds (e.g. from minority backgrounds).

There are further problems with the concept of effectiveness. In particular, it is frequently not possible to make direct causal attributions between training and outputs such as gaining employment.

As noted by Kleinman et al. (1998):

‘The demand for labour at a particular point in time will be strongly influenced by macro-economic and macro-social factors – the level of demand in the economy, the macro-economic stance of government and the degree of business confidence. More immediately, it

will be affected by micro factors, both economic and social. How does the level of demand for labour in the economy as a whole translate into the demand for specific numbers and types of entry-level jobs? What types of attributes and skills are relevant to those jobs? What are the recruitment processes by which firms attract the required labour? Are the entry routes to these jobs primarily formal or primarily informal? How do individuals gain access to these channels?’

Notwithstanding these problems with the concept of effective training, there are likely to be overall benefits as a result of training. At European level, policy objectives related to improving employability, adaptability and increasing lifelong learning may be met. At national or regional levels, objectives related to increasing the overall skill levels, decreasing unemployment and so on may be met. At enterprise level, objectives concerned with increasing productivity, adaptability and so on may be met. At individual level, objectives related to improving general, vocational and personal or social skills may be met.

As noted above, benefits may be immediate ‘outputs’ or longer term ‘outcomes’. For example, the immediate benefits for an individual may be to gain a qualification, whilst a longer-term benefit may be to stay in employment. Likewise for national governments, an immediate benefit may be to reduce the number of unemployed young people, whilst a longer-term benefit may be to increase the overall skill levels in the population. More generally, outcomes may be conceptualised as having an impact on stakeholders of training.

5.2 Initial vocational training

Initial vocational training is funded, in the main, at a national level with additional funding from enterprises. On *a priori* grounds, the key objectives of IVT are to equip young people with skills to gain a job and to stay in employment.

European policy information requirements

There are EU policies that relate specifically to IVT (see Section 3). At European level, the policy priorities for IVT are linked, in particular, to the following policy domains (see Section 3.1):

- (a) transition to work,
- (b) adaptability,
- (c) reducing social exclusion,
- (d) improving linguistic competence,
- (e) improving mobility,
- (f) improving the quality of training,
- (g) promoting investment in training.

It is important to note that at EU level, there has been renewed emphasis on apprenticeships and the quality of training as a result of the Luxembourg resolutions (see Section 3.1).

Objectives of funding bodies

National/regional levels

The funding for IVT comes primarily from two sources (public authorities and enterprises). Although not always made explicit, the overall aims of national governments are likely to be to aid transition from school to work; to improve the overall skill levels in the population; and to improve

the competitiveness and productivity of the country/region. Bearing in mind EU policy priorities, we can propose that the objectives of training will fall within the following domains:³

- (a) transition to work,
- (b) adaptability,
- (c) reducing social exclusion,
- (d) improving the quality of training,
- (e) promoting investment in training.

Ideally, to establish the precise objectives of IVT at national level, a review of relevant policy documents would need to be undertaken. By way of example, the case of the UK is outlined. Extracts are all from the Green paper, 'the learning age' (1998).

'We propose to:

- expand further and higher education to provide for an extra 500 000 people by 2002;*
- invest in young people so that more continue to study beyond age 16 ...'*

'Many students on vocational courses need additional help with literacy and numeracy.'

'We will make available an additional 10 000 Modern Apprenticeships in 1998-99, with a particular emphasis on young people aged 19 or over, on areas where there are skill shortages, and

³ The objectives can be defined more precisely, for example: provide young people with skills and competences to obtain and retain a job ('Transition to work'); provide with skills that are transferable to other contexts/ICT skills ('Adaptability'); Provide young people at a disadvantage in the labour market with skills and competences to gain and retain a job ('Reduce social exclusion'); increase the number of young people who gain qualifications/gain jobs ('Improve quality of training'); increase expenditure on training for young people by stakeholders ('Promote investment in training').

on encouraging take-up by small and medium-sized enterprises.'

Enterprise level

The objectives of IVT at enterprise level are likely to relate to individuals who have undertaken IVT acquiring skills and competences that meet the needs of the employer/enterprise. The objectives of training are likely to fall in the following domains:

- (a) transition to work,
- (b) adaptability,
- (c) reducing social exclusion (not a high profile for all enterprises),
- (d) improving the quality of training (not a high profile for all enterprises).

Individual level

Whilst individuals do not, in general, fund IVT, they are likely to contribute to funding their own higher education. Their objectives are likely to fall within the following domains:

- (a) transition to work,
- (b) adaptability,
- (c) reducing social exclusion (a very high priority for those from disadvantaged groups),
- (d) improving linguistic fluency (may be a priority for some individuals),
- (e) spending a period of study in another EU country (may be a priority for some individuals).

General proposals for IVT indicators

National/regional, enterprise, individual levels

Data collection: VET survey and LFS/ECHP/other household survey/survey of school leavers

[Classifications by gender, age, minority group].

Input indicators

1. Percentage of young people taking up apprenticeships.
2. Percentage of young people taking up other forms of integrated training and work experience.
3. Percentage of young people in various types of IVT [classifications as in VET survey] over time.

Output indicators (vocational/general)

1. Percentage of young people gaining qualifications [nationally recognised/not nationally recognised, ISCED level].
2. Percentage of young people who have followed training and not gained recognised qualification.
3. Percentage of young people gaining a higher qualification than that already held [by level].
4. Percentage of those who started in IVT completing training [by type of IVT].
5. Percentage of those following training (including higher education) who have been on placement (or studied) in another EU country during period of training. Only where this was a specific objective.

Outcomes

1. Percentage of young people going on to higher level of training/education.
2. Percentage of those who started IVT, obtaining a job within x weeks [by ISCO level, sector].
3. Percentage of those completing IVT gaining competence in ICT [classification by level of competence].
4. Percentage of those completing IVT gaining competence in foreign language 1 [classification by level of competence] only where this was a specific objective.
5. Percentage of those completing training gaining competence in foreign language 2 [classification by level of competence] only where this was a specific objective.
6. Percentage of those completing training gaining competence in literacy [classification by level of competence] only where this was a specific objective.
7. Percentage of those completing training gaining competence in numeracy [classifications by level of competence] only where this was a specific objective.

8. Percentage of those completing training gaining competence in the language of instruction – speakers of other languages [classifications by level of competence] only where this was a specific objective.
9. Percentage of those who obtain a job, retain that job/any job for three/six months.

5.3 Continuing vocational training

Continuing vocational training is funded at many different levels: European, national, regional, enterprise, social partner and individual.

European policy information requirements

There are EU policies that relate specifically to CVT (see Section 3.1) and a high priority is given to this form of training. The priorities in relation to CVT are linked, in particular, to the following policy domains:

- (a) lifelong learning,
- (b) adaptability,
- (c) innovation,
- (d) linguistic competence,
- (e) mobility,
- (f) investment in training,
- (g) quality of training.

Objectives of funding bodies

European level

The objectives of the EU in its funding of CVT relate in particular to the following policy domains:

- (a) adaptability,
- (b) linguistic competence,

- (c) mobility,
- (d) investment in training.

National/regional levels

The objectives of CVT from the perspective of national governments are likely to be to improve skill levels in the population, to reinforce national policies (e.g. in relation to lifelong learning, improving adaptability of the workforce), to encourage investment in training by employers, and to improve the overall competitiveness of the country. Objectives are likely to be in the domains:

- (a) adaptability,
- (b) linguistic competence (not necessarily in all countries),
- (c) investment in training,
- (d) quality of training.

Enterprise/social partner levels

The objectives of CVT for enterprises are likely to be varied. They may include: improving job-related knowledge, improving general problem solving capacities, improving management skills, improving personal/social competences (e.g. team work), improving productivity, meeting health and safety requirements, meeting legal training obligations, retaining staff, improved quality of products or services, improving customer satisfaction, improving competitiveness, improving profitability, creating new markets (global/EU), reducing staff costs, improving staff motivation, decreasing absenteeism, improving foreign language competence. Objectives in the following domains may be addressed:

- (a) adaptability,
- (b) innovation,
- (c) linguistic competence (not necessarily in all enterprises),
- (d) mobility (not necessarily in all enterprises),
- (e) investment in training (not necessarily in all enterprises),
- (f) quality of training (not necessarily in all enterprises).

Individual level

In the case of individuals, the objectives of CVT are likely to be varied. Individuals may wish to improve their skill levels, promotion prospects, salaries or future employment opportunities.

Objectives are likely to be included in the following policy domains:

- (a) adaptability,
- (b) linguistic competence (not necessarily all individuals),
- (c) mobility (not necessarily all individuals).

General proposals for CVT indicators

European, national, regional, individual levels

Data collection CVTS and LFS/LFS/ECHP/other household survey

[Classifications by occupational level, gender, age, type of training, in labour force/not in labour force, funded by self/employer, initiated by self/employer].

Input

1. Percentage of those in employment undertaking CVT in past 6/12 months [by number of episodes of training].
2. Percentage of those out of labour force undertaking CVT in past 6/12 months.
3. Percentage of those undertaking CVT by current salary.
4. Percentage of those undertaking CVT by current level of education or training [using ISCED level].
5. Percentage of those undertaking placement (part of CVT) in another EU country.

Output (vocational/general)

1. Percentage of those undertaking CVT gaining a qualification [job-related/general, nationally recognised/not nationally recognised, ISCED level].
2. Percentage of those undertaking CVT and not gaining a qualification.

Outcomes

1. Percentage of those undertaking CVT gaining promotion (attributed to training).
2. Percentage of those undertaking CVT gaining a higher position in same company (attributed to training).
3. Percentage of those undertaking CVT gaining new job (attributed to training).
4. Percentage of those undertaking CVT receiving higher remuneration (attributed to training).
5. Percentage of those undertaking CVT gaining competence in a foreign language 1 [classification by level of competence] only where this was a specific objective.
6. Percentage of those undertaking CVT gaining competence in foreign language 2 [classification by level of competence] only where this was a specific objective.
7. Percentage of those undertaking CVT gaining competence in ICT [classification by level of competence] only where this was a specific objective.
8. Percentage of those who were not in the labour force, and who undertook CVT, who have now entered the labour force.
9. Percentage of those who were not in labour force, and who undertook CVT, entering labour force and gaining employment.

Enterprise level

Data collection: CVTS.

Input

[Classification by sector, age, sex, educational level (using ISCED), salary level, position in company, type of training]

1. Percentage of employees in enterprise undertaking CVT.

Outcomes

[Classification by sector, type of training]

The following are examples of the areas in which indicators could be produced as part of the CVTS using specific 'modules'. Questions would focus on perceptions of employers and the extent to which the following outcomes can be attributed/related to training:

- (a) staff retention,
- (b) improved productivity,
- (c) increased profits,
- (d) improved management skills,
- (e) decrease in staff absenteeism,
- (f) improved adaptability of work force,
- (g) improved job-related knowledge,
- (h) improved problem solving capacities of employees,
- (i) facilitated innovation,
- (j) improved personal/social skills of workforce [only where this was an objective] [e.g. team work – to be expanded at a later date].

5.4 Training for the unemployed

(including women returners, minorities, those with disabilities/special needs, the elderly)

Training for the unemployed is funded primarily by national public authorities, with additional funds from the EU. The key objectives of UVT are to improve the employability of those currently out of work.

European policy information requirements

There are EU policies that relate specifically to UVT (see Section 3.1) and a high priority is given to this form of training. Training for the unemployed is linked, in particular, to the following policy domains:

- (a) lifelong learning,
- (b) reducing social exclusion,
- (c) improving adaptability,
- (d) quality of training.

Objectives of funding bodies

European level

The EU provides funds for UVT. The objectives of this type of training are likely to fall into the following policy domains:

- (a) lifelong learning,

- (b) reducing social exclusion,
- (c) improving adaptability,
- (d) linguistic competence (in some cases only).

National/regional levels

The funding for UVT comes mainly from public authorities. The objectives of UVT from the perspective of national governments are likely to be to reduce unemployment, to improve skill levels in the population and to reinforce national policies (e.g. in relation to life long learning, improving adaptability of the workforce, reducing social exclusion). Ultimately, the objectives are likely to be related to the overall competitiveness and productivity of the country/region. In the current policy framework key objectives are in the following domains:

- (a) reducing social exclusion,
- (b) improving adaptability,
- (c) quality of training,
- (d) investment in training.

General proposals for UVT indicators

European, national, regional levels

Data collection: new administrative data collection, LFS/ECHP/other household survey [Classifications by gender, age group (including elderly), minority group, disability/special needs, type of training provider].

Input

1. Percentage of young unemployed offered training, retraining, work practice before six months of unemployment [could be related to Member State targets].
2. Percentage of unemployed adults offered training, retraining, work practice before 12 months of unemployment [could be related to Member State targets] [classification by ISCED level].
3. Percentage of young unemployed who take up training, retraining, work practice before six months of unemployment [training classification by ISCED level].
4. Percentage of unemployed adults who take up training, retraining, work practice before 12 months of unemployment [training classification by ISCED level].

Output (vocational/general)

1. Percentage of young unemployed who complete training, retraining, work practice [classifications by type of job: full-time/part-time, permanent/temporary, sector, ISCO level].
2. Percentage of unemployed adults who complete training, retraining, work practice [classifications by type of job: full-time/part-time, permanent/temporary, sector, ISCO level].
3. Percentage of those completing training who gain a qualification [job-related/general, nationally recognised/not nationally recognised, ISCED level, young unemployed/unemployed adults].

Outcomes

1. Percentage of young unemployed who obtain a job after completing/not completing training, retraining, work practice [classifications by type of job: full-time/part-time, permanent/temporary, sector, ISCO level].

2. Percentage of unemployed adults who obtain a job after completing/not completing training, retraining, work practice [classifications by type of job: full-time/part-time, permanent/temporary, sector, ISCO level].
3. Percentage of young unemployed completing/not completing training who retain job/any job for three months/six months after training, retraining, work practice.
4. Percentage of unemployed adults completing/not completing training who retain job/any job for three months/six months after training, retraining, work practice.
5. Percentage of those who start training but do not complete training, who obtain a job (unemployed adults/young unemployed).
6. Percentage of those who complete UVT, obtaining a job within x weeks [by ISCO level, sector].
7. Percentage of those completing UVT gaining competence in ICT [classification by level of competence].
8. Percentage of those completing UVT gaining competence in foreign language 1 [classification by level of competence] only where this was a specific objective.
9. Percentage of those completing UVT gaining competence in foreign language 2 [classification by level of competence] only where this was a specific objective.
10. Percentage of those completing UVT gaining competence in literacy [classification by level of competence] only where this was a specific objective.
11. Percentage of those completing UVT gaining competence in numeracy [classification by level of competence] only where this was a specific objective.
12. Percentage of those completing UVT gaining competence in language of instruction – speakers of other languages [classifications by level of competence] only where this was a specific objective.
13. Percentage of those who obtain a job, retain that job/any job for three/six months.

5.5 Other issues

There is also a need for indicators relating to expenditure on training at different levels (e.g. public expenditure, expenditure at sectoral level, expenditure by enterprises, expenditure by individuals); also information on unit costs for different forms of training (e.g. initial VET of various types, training for the unemployed).

Given the complexity of this area, it is likely that specific studies designed to evaluate different types of training from the perspectives of different stake holders would add considerably to the knowledge base from which informed decisions about the relative effectiveness of training can be taken.

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