Report on the indicators on quality of employment in the field of skills development and life-long learning

prepared by Thomas Koerner and Emese Schoenfeld

The role of skills development and life-long learning in the framework on quality of employment

The level and continuous development of knowledge, skills and abilities is frequently being referred to in the context of enhancing the competitiveness of economies (as, e.g., in the so-called Lisbon process of the European Union). Secondly, education and training investments have been and continue to be a key topic in the context of how to improve employment opportunities for the entire population or certain population.

In contrast, the topic has so far been much less prominent in the context of the quality of employment. For example, the recent discussion around the notion of "decent work" has focused on the four broad dimensions of (a) fundamental rights at work; (b) creation of employment opportunities for all; (c) social protection; and (d) social dialogue without explicitly mentioning the role of skills and life-long learning. Not surprisingly, in the framework of the Task Force, development of skills and life-long learning are allocated rather at the other end of the continuum starting from the aspects providing for basic human needs of the workers, and right next to the "intrinsic nature of work".

Nevertheless, it has been argued that "it is necessary to integrate work into a socially productive process that includes economic production". In addition to the production point of view, work should also be perceived as a "social activity that takes time, **requires skills** and contributes to welfare" (Young 2007). From such a perspective, the development of skills and life-long learning are not to be overlook in a framework on the quality of employment.

The importance of skills and the development of skills is a vital aspect for at least two reasons. First of all, work can give a sense of self-fulfillment and self respect to a person, which is closely (but not exclusively) linked to whether the job and the skills as well as the knowledge of the employee are in balance. Situations of both excessive demands or under-qualification and being under challenged or over-qualified at work would clearly not be referred to as "good" employment. Secondly, the development of skills has an even more existential meaning: The speed with which the requirements

regarding the abilities and knowledge of employees are changing (and become more and more demanding) makes it vital for most employees to keep their knowledge up-to-date at an increasing frequency. Today, skills development and continued training opportunities are key determinants for the future employability of people. Workers who are denied opportunities to continuously enhance their skills will have serious handicaps with respect to their professional or personal development or to find an appropriate job in case of unemployment. Under this perspective, the level of education which has been achieved prior to the first employment is a further relevant indicator.

Consequently, in the quality of employment framework training opportunities should be seen as an essential aspect of any job. But skills are not just a function of the abilities and training of the worker, but also reflect the nature of the job itself. As a result, skills cannot be as well developed in a work environment where the employed person is over-qualified for the position.

Operationalisation of the indicators

Based on the considerations outlined in the overview, we distinguish between indicators which concern (A) the educational background of employed persons that has already been achieved prior to the employment and those regarding (also in relation to the present type of occupation) (B) the ongoing/present on- and off-the-job training enabling employees to keep their skills and knowledge up-to-date.
First of all, considering the above mentioned access to employment the level of alphabetization is of high relevance. Therefore we propose an indicator on the level of alphabetization of employed in contrast to the level of alphabetization of the population. There is a strong interdependence between this indicator and the employed persons by level of education. Here especially subgroups of employees are of interest (employees by age, sex, nationality (native, foreign national) and branches of economic activity). The first indicator given in the paper by the steering committee (share of employees in high skilled occupations) also rather belongs to (A). Considering the balance of the job requirements and the skills of the employees, we propose two new indicators:

- Share of over-qualified persons (Number of employees with “high” ISCED and “low” ISCO level by all employees), and
- Share of under-qualified persons (Number of employees with “low” ISCED and “high” ISCO level by all employees).

The indicator “share of employees with recent job training in the last 12 months” proposed by the steering committee belongs to (B). This indicator will be completed by analyses on job training by age, tenure, sort of contract and kind of training (work-related, done on one's own initiative), occupation skill level, level of education and over- and under-qualified persons. Another indicator we would like to suggest is the number of training days in the last year per employee. Another completion of the main-indicator of (B) is the amount of carried out training by measuring the number of hours of training.

Hence our list suggests the following indicators:

A. Indicators concerning the educational background prior to the employment

A.1. Level of alphabetization of employed persons and population
A.2. Share of employed persons by Level of Education (including subgroups)
A.3. Share of employed persons in high skilled occupations
A.4. Share of over-qualified Persons
A.5. Share of under-qualified Persons

B. Indicators concerning the ongoing/present on- and off-the-job training

B.1. Share of employees with recent job training (last 12 months)
B.2. Number of hours of training in the last year
B.3. Job training by subgroups
B.4. Kind of job training (job-related, done on one's own initiative)

Description of the indicators

A. Indicators concerning the educational background prior to the employment

A.1. Level of alphabetization of employed persons and population

Policy relevance: In developing countries of high relevance, for example for the Human Development Index (HDI) of the UNDP; in developed countries the problem rather focuses on population groups with only very limited reading and writing skills.

Completeness and pertinence to the dimension described: Alphabetisation is a precondition to employability in a growing number of occupations, it is at the same time a precondition to most kinds of training activities and thus for the establishment of “good” work

Redundancy with other indicators: There is a strong interdependence between this indicator and the indicator of employed persons by level of education.

Availability of data: OECD and UNDP

Comparability: It is likely that there are a considerable number of unreported cases.

A.2. Share of employed persons by Level of Education (including subgroups)

Policy relevance: Statistics on employed persons by the level of their education show that there is a strong positive correlation between these two variables in most countries. This finding is of high relevance for labour market policy and education policy. Especially the analysis of subgroups delivers results of high political relevance.

Completeness and pertinence to the dimension described: This is a main indicator that deals with the educational background achieved prior to the employment. The indicator not only gives information on the labour market chances of given population groups, but also can be used as a proxy for the skill level of the employments in a country. Although the interpretation is difficult in this respect, the indicator offers the advantage of very wide availability.

Redundancy with other indicators: This indicator is at the same time needed for the calculation of the share of under- and over-qualified employees.

Availability of data: Data available in the EU-LFS: Highest attainment level of education (ISCED), data available for sex, age, nationality (native, foreign nationality) and branches of economic activity.

Comparability: Internationally comparable classification (ISCED), internationally comparable data (EU-LFS) and international comparable definition of employed (ILO); comparability might however be restricted for certain countries due to problems to transfer the national levels of educational attainment to the international classification.

A.3. Share of employed persons in high skilled occupations

Policy relevance: Especially in well developed countries the share of employed persons in high skilled occupations is a key indicator for the sustainability of economy. In developing countries the share of employed persons might be of higher relevance.

Completeness and pertinence to the dimension described: Key indicator for the skill level of occupations currently available in an economy

Redundancy with other indicators: This indicator that already was proposed by the steering committee is the basis for the calculation of the share of under- and over-qualified employees.

Availability of data: Data for persons in high skilled occupations is available in the EU-LFS: ISCO skill level; availability of information on occupation according to ISCO might be a problem in a number of countries.

Comparability: Internationally comparable classification (ISCO), internationally comparable data (EU-LFS) and international comparable definition of employed (ILO); comparability might however be restricted for certain countries due to problems to transfer the national levels of educational attainment to the international classification.

A.4. Share of over-qualified Persons

Policy relevance: In developed economies the share of over-qualified employees is of secondary importance. However, it provides important information on the current state of labour market integration of well trained persons.

Completeness and pertinence to the dimension described: Regarding the quality of work this indicator as well as the share of under-qualified persons can be used to attain a quite complete idea of satisfaction of employees from the perspective of skills. Over-qualified persons will receive less self-fulfilment in their job and might at the same often be denied appropriate opportunities for life-long learning.

Redundancy with other indicators: This indicator uses information from the indicators “Share of employed persons in high skilled occupations” and “employed persons by level of education: number of employees with “high” ISCED and “low” ISCO level by all employees.

Availability of data: Data available in the EU-LFS. (see above)

Comparability: Internationally comparable classifications (ISCO, ISCED), internationally comparable data (EU-LFS) and international comparable definition of employed (ILO)

A.5. Share of under-qualified Persons

Policy relevance: This indicator is of higher relevance in developed countries than the share of over-qualified persons as a high share of vacancies notified that cannot be filled requires high skills. In Germany for example there is a trend of companies having to hire under-qualified employees (as adequately trained staff is in some regions not available on the labour market).

Completeness and pertinence to the dimension described: Regarding the quality of work this indicator as well as the share of over-qualified persons can be used to attain an idea of satisfaction of employees from the perspective of skills. However, the share of under-qualified persons might be difficult to interpret, as it partly fails to account for knowledge and skills attained "on the job" or in parallel to being employed. Depending on the national education system, the ISCED level will in many cases rather refer to the level attained prior to the (first) employment.

Redundancy with other indicators: This indicator uses information from the indicators "Share of employed persons in high skilled occupations" and "employed persons by level of education: number of employees with "low" ISCED and "high" ISCO level by all employees

Availability of data: Data available in the EU-LFS.

Comparability: internationally comparable classifications (ISCO, ISCED), internationally comparable data (EU-LFS) and international comparable definition of employed (ILO)

B. Indicators concerning the ongoing/present on- and off-the-job training

B.1. Share of employees with recent job training (last 12 months)

Policy relevance: Life-long learning is of high political relevance (current example in Germany: Government pays education bonus to employed persons when participating in training) (this indicator is also relevant in the field of political engagement against unemployment). All the indicators of this second part B are more relevant in well developed countries than in developing ones.

Completeness and pertinence to the dimension described: this indicator that was proposed by the steering committee is the main indicator for life-long learning. It is a key indicator for skills development and life-long learning.

Redundancy with other indicators: As main indicator there are interdependencies with the supplementary indicators as the employees with recent job training are the given population for the supplementary indicators.

Availability of data: Share of employees with recent job training is available in the EU-LFS only for training in the last 4 weeks. In the EU-CVTS (Continuing Vocational Training Survey) that is carried out every five years from 2006 onwards companies are asked on the number of employees having participated in the calendar year in training. As the question here deals only with training that is paid by the employer and has the intention of professional training (as it is the company who answers here

only professional training that is relevant for the actual job of the employees will be considered) and is only available in the European Union, the EU-LFS is the better source.

Comparability: Internationally comparable data (EU-LFS); availability of information particularly in less developed countries needs to be further examined.

B.2. Number of hours of training in the last year per employee

Policy relevance: Belongs to the political relevant field of life-long learning and completes the indicator above in evaluating the amount of training.

Completeness and pertinence to the dimension described: Serves as a supplementary indicator that delivers important information for the dimension of life-long learning.

Redundancy with other indicators: This is a supplementary indicator to the share of employees with recent job training to evaluate the amount of training participation.

Availability of data: In the EU-LFS the number of hours spent on all taught learning activities within the last four weeks is available. As for the indicator above only data on training within the last four weeks is available. Availability in other countries, particularly in less developed ones needs to be further examined.

Comparability: The available data is internationally comparable at least within the European Union (EU-LFS)

B.3. Job training by subgroups

Policy relevance: This supplementary indicator also delivers important political information on which subgroups are underrepresented in training.

Completeness and pertinence to the dimension described: This indicator completes the above mentioned indicators and delivers broad information on subgroups that are underrepresented in training. Subgroups of interest are: employees by age, sex, tenure, kind of contract, level of education (ISCED), occupation skill level (ISCO) and over- and under-qualified employees (see Indicators A.4 and A.5).

Redundancy with other indicators: This is a supplementary indicator to the share of employees with recent job training to assess who actually participates in training and who does not.

Availability of data: For the availability of data on training see the share of employees with recent job training (indicator B.1). Data on age, sex, tenure is available in the EU-LFS, data on kind of contract is available for the permanency of the job in the EU-LFS with the possibility of differentiation of the total duration of a temporary job. As seen in indicators A.4 and A.5 data on over- and under-qualified persons is available in the EU-LFS.

Comparability: Internationally comparable data at least within the European Union (EU-LFS)

B.4. Kind of job training (job-related, done on one's own initiative)

Policy relevance: The indicator of life-long learning obtains more relevant information by this supplementary indicator on the reason why employees carry out training.

Completeness and pertinence to the dimension described: Completes all the above mentioned indicators and develops an idea of why employees carry out training and in which field this training takes place. It can be used as a proxy information to the question whether job training is rather an established part of the occupation or rather relying on the individual initiative of the employees

Redundancy with other indicators: This is a supplementary indicator to the share of employees with recent job training.

Availability of data: In the EU-LFS data is available on the purpose of the most recent taught learning activity with the differentiation of job related and personal/social training.

Comparability: Internationally comparable data at least within the European Union (EU-LFS)

Results for Germany

Indicator A1: Level of alphabetization of employed persons and population

Not available for employed persons. UNDP reports more than 99 % for the population in Germany (2003).

Indicator A2: Share of employed persons by level of education (including subgroups)

- **Share of employed persons by level of education**

	ISCED 1	ISCED 2	ISCED 3	ISCED 4	ISCED 5b	ISCED 5a	ISCED 6	comments
total	1,95%	10,64%	51,70%	7,78%	10,18%	16,31%	1,44%	Age: 25-64

- **Subgroups (1): sex, age, nationality**

		ISCED 1	ISCED 2	ISCED 3	ISCED 4	ISCED 5b	ISCED 5a	ISCED 6	comments
female		1,86%	12,40%	52,25%	9,00%	8,82%	14,75%	0,91%	Age: 25-64
male		2,03%	9,18%	51,24%	6,77%	11,31%	17,60%	1,87%	
age	25-34	1,94%	9,66%	50,35%	12,54%	8,09%	16,52%	0,89%	
	35-44	2,03%	9,57%	51,55%	8,64%	10,70%	16,01%	1,51%	
	45-54	1,83%	11,36%	53,33%	5,32%	10,72%	15,98%	1,45%	
	55-64	2,01%	13,29%	50,91%	3,17%	11,14%	17,36%	2,11%	
German		1,06%	9,13%	53,22%	7,93%	10,74%	16,45%	1,39%	Age: 25-64
Foreign nationality		11,56%	26,82%	35,34%	6,12%	4,16%	14,76%	1,21%	

- **Subgroups(2): branches of economic activity**

	ISCED 1	**ISCED 2**	**ISCED 3**	**ISCED 4**	**ISCED 5b**	**ISCED 5a**	**ISCED 6**
A-B Agriculture, hunting and forestry	1,97%	14,28%	60,75%	3,95%	12,12%	6,71%	0,20%
C-D Mining and quarrying; manufacturing	2,31%	12,47%	56,52%	5,79%	10,00%	12,07%	0,84%
E Electricity, gas and water supply	0,75%	5,13%	53,43%	7,22%	14,17%	18,56%	0,70%
F Construction	1,63%	10,39%	62,16%	3,93%	13,86%	7,92%	0,11%
G-H Wholesale and retail trade; repair of motor vehicles etc.; hotels and restaurants	2,44%	14,62%	61,18%	7,54%	7,06%	6,95%	0,20%
I Transport, storage and communications	1,46%	13,35%	61,91%	8,51%	5,57%	8,99%	0,19%
J Financial intermediation	0,22%	5,27%	46,99%	20,30%	9,48%	17,01%	0,73%
K Real estate, renting and	1,99%	8,83%	39,47%	10,66%	7,49%	29,18%	2,37%

business activities							
L Public administration and defence; compulsory social security	0,51%	7,09%	49,96%	8,16%	14,38%	18,79%	1,11%
M-Q Education; Health and social work; other community, social and personal service activities etc.	2,25%	8,12%	40,62%	7,78%	12,24%	25,47%	3,52%

Indictor A3: Share of employed persons in high skilled occupations

43,29%	High skill occupations: ISCO 1-3; Age 25-64

Indicator A4: Share of over-qualified persons

total		14,10%	For comments on Indicator A4 and A5 see (*). If not otherwise mentioned, Age:25-64
female		14,19%	
male		14,02%	
age	25-34	12,03%	
	35-44	13,84%	
	45-54	14,99%	
	55-64	16,17%	
German		13,58%	
Foreign nationality		19,70%	

Indicator A5: Share of under-qualified persons

Total		24,75%	For comments on Indicator A4 and A5 see (*). If not otherwise mentioned, Age:25-64
Female		27,67%	
male		22,35%	
age	25-34	24,91%	
	35-44	24,56%	
	45-54	24,55%	
	55-64	25,40%	
German		25,09%	
Foreign nationality		21,08%	

(*)	ISCED							
ISCO		1	2	3	4	5b	5a	6
	1	A5	A5	A5	A5	A5	X	X
	2	A5	A5	A5	A5	A5	X	X
	3	A5	A5	A5	A5	X	X	A4
	4	A5	X	X		A4	A4	A4
	5	A5	X	X		A4	A4	A4
	6	A5	X	X		A4	A4	A4
	7	A5	X	X		A4	A4	A4
	8	A5	X	X		A4	A4	A4
	9	X	A4	A4	A4	A4	A4	A4

X: Qualification and occupation in balance
A4: Over-qualified person (“high” ISCED and “low” ISCO)
A5: Under-qualified person (“low” ISCED and “high” ISCO)

Indicator B1: Share of employees with recent job training

6,03%	Share of employed persons having participated in training during the last 4 weeks; Age: 25-64

Indicator B2: Number of hours of training

18,22 hours	Hours of training in the last 4 weeks per employee that has participated in training; Age: 25-64

Indicator B3: Job training by subgroups

female		6,65%	Age: 25-64	Share of employed persons having participated in training during the last 4 weeks in all employed persons of that age, sex or nationality or …
male		5,51%		
age	25-34	7,52%		
	35-44	6,28%		
	45-54	5,52%		
	55-64	4,08%		
German		6,29%	Age: 25-64	
Foreign nationality		3,24%		
Under-qualified		6,81%	For the definition of over- and under-qualified persons see (*); Age: 25-64	
Over-qualified		3,71%		
tenure	Since 2006	5,36%	Age: 25-64	
	2003-2005	6,32%		
	1998-2002	6,37%		
	Before 1998	5,90%		
Fixed-term contract		8,16%		
ISCO	1	6,18%		
	2	13,31%		
	3	8,21%		
	4	5,14%		
	5	3,93%		
	6	2,08%		
	7	2,60%		
	8	1,45%		
	9	1,57%		
ISCED	1	0,65%		
	2	1,71%		
	3	3,86%		
	4	7,95%		
	5b	9,48%		
	5a	11,81%		
	6	22,63%		

Indicator B4: Kind of job training

Job-related	personal/social
89,55%	10,45%