



**Programme for International Assessment of Adult Competencies (PIAAC)**

***Programme International pour l'Evaluation des Compétences des Adultes***

**Paris, 26-27 April 2004**

***Paris, 26-27 avril 2004***

**DRAFT**

**“DEVELOPING AN INTERNATIONAL SURVEY ON ADULT SKILLS  
AND COMPETENCIES - AIMS AND METHODOLOGICAL ISSUES”**

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**COM/DELSA/EDU(2004)4**

**English**

**Organisation for Economic Co-operation and Development**  
***Organisation de coopération et de développement économiques***

**Directorate for Education / Directorate for Employment, Labour and Social Affairs**  
***Direction de l'Education / Direction de l'Emploi, du Travail et des Affaires Sociales***

DRAFT - NOT TO BE CITED

## “DEVELOPING AN INTERNATIONAL SURVEY ON ADULT SKILLS AND COMPETENCIES - AIMS AND METHODOLOGICAL ISSUES”

### Preliminary remarks

1. Developing an international survey on adult skills and competencies raises two types of issue:

Issues relating to the public policy value of such a survey;

Methodological issues relating not only to the purpose of the survey but also to ways of assessing the skills and competencies that people effectively have.

2. As both types of issue are closely linked, we shall not be addressing them separately. It goes without saying, however, that subsequent work will need to go much further than this paper in exploring the methodological issues and technical feasibility of such a survey.

3. Although it is not the purpose of this paper to put forward the views of France on the subject (its author is by no means qualified to express any views on behalf of the French government), most of the examples we shall be using draw directly on French experience in this field.

4. We should first point out that the notions of “skills” and “competencies” as used in the Anglo-Saxon world do not have an exact equivalent in French, nor do they have the same connotations in our country.

5. The term “skill” can be translated just as readily by the French term *qualification* as by the term *savoir-faire* (know-how). The first is generally associated with the rules governing labour relations (collective agreements, employment contracts), but is also used, in everyday language, to designate the skills or capacities that someone is likely to use in the workplace. In other words, it may refer to collective agreements or personal qualities.

6. The term “competency” is akin to the French *compétence* which usually refers to the ability to use knowledge and know-how in a given work situation. In France, it has recently become more widely used now that changes are affecting the more traditional working patterns based on rigid job descriptions. So the term is often associated with a more individualistic form of labour relations and is accordingly perceived by some to mean the opposite of *qualification*. The French also use the term to designate basic abilities that are transferable to a variety of contexts both inside and outside the workplace, such as troubleshooting, reasoning, or solving logical or mathematical problems. This polysemy is particularly marked in France, although it is not restricted solely to that country.

7. In this paper we shall therefore be using both terms (skills and competencies), but the issue is clearly not merely one of terminology. The ambivalence of these terms reflects the ambivalent aims of the survey itself. The sole premises that can be taken for granted are that:

**the emphasis is not on a person’s qualifications – in the legal sense – for the job to be done but on a person’s skills** (what they can do, how much they know in a specific field, what their abilities are in a given sphere, even if their current job requires them to draw only partially on that knowledge and know-how and on those skills and competencies)

the “skills and competencies” featuring in the survey refer to those put to practical use in work situations, rather than in the purely cognitive field (the survey will not measure academic knowledge or the very broad abilities used in a wide range of situations, such as those measured in IQ tests).

8. Even these premises, however, merit discussion!

9. First let us dismiss the assumption that the purpose of such a survey would be to make broad comparisons of the adult population across a range of countries. Such comparisons would not necessarily be devoid of interest, but the very idea of awarding scores or drawing up league tables for countries poses even more formidable problems of data comparability than in the literacy survey, which focused on people who had been through the education system.

10. Ruling out an international scoring system does not mean that it would be pointless to conduct the same survey in several countries. While producing a broad picture of skill and competency levels in a single country makes little sense and cannot lead to cross-country comparisons, comparing partial survey data can provide a wealth of information. It may be useful for a country to find out, for instance, how skilled its adult population is at using the Internet or the more common types of software (word-processing or spreadsheets), compared with the same group in another country. Nonetheless, some thought needs to be given to the scope of such comparisons: should the aim be to measure the ground that a country needs to make up and therefore to consider introducing broad-ranging policy initiatives in order to catch up (e.g. introductory computer courses), or should it be to pursue more targeted policies (e.g. combating social and labour-market exclusion by improving computer literacy)? If the answer is the latter, then the survey will have to be refined to produce findings by age-group. This is because educational attainment among older age-groups directly impacts on their ability to use computer tools. **The assumption is that the main purpose of international comparisons in this kind of survey is to inform countries about how well they perform on specific indicators, and to encourage them to conduct further, more in-depth work.**

11. This takes us directly to the issue of what the purpose of this survey is to be. In our view, its aims fall into two broad categories.

#### *I – BETTER FORECASTING OF ADULT TRAINING REQUIREMENTS ON THE BASIS OF EMPLOYMENT TRENDS*

12. This is a traditional concern in every country. Yet it usually gives rise to forecasts of the demand for labour in specific sectors of the economy or individual occupations. Seldom are the forecasts supplemented with comparisons of the skills and competencies actually available in the labour force.

13. France has fairly substantial experience in this field. As part of the work of the *Commissariat general du plan* (French Planning Office), labour demand forecasts have been drawn up at regular intervals since the mid-1960s. Based on econometric models, the forecasts primarily shed light on future changes in the labour force, broken down into broad socio-professional categories. Although the work did cover training issues, the main concern at the time was the development of basic education and the education system. It was to that end that the *Commissariat du plan* drew up a nomenclature collating educational attainment with the type of post held. In this nomenclature, for instance, Level III related to attainment generally leading to jobs as a *technicien supérieur* (advanced technician), in lower management or in the intermediate professions (e.g. primary teacher, nurse). These labour demand forecasts thus gave a clearer picture of the efforts required to develop the education system in a country which, in educational terms, was seriously lagging behind other similarly developed countries.

14. A further effect of this work was the emphasis it placed on academic attainment in its approach to skills and competencies in the labour force. Not only did the response to future labour requirements appear to depend mainly on basic education, regardless of opportunities to develop the skills and competencies of adults already on the labour market, but the whole issue of skills and competencies was in most cases reduced to educational attainment and formal qualifications.

15. On several occasions, the forecasts produced in this way aroused keen controversy. In the late 1980s, for instance, they indicated a large gap between the predicted number of advanced technicians and engineers leaving the education system and the prospects for growth in both categories. Criticism was voiced about the relative Malthusianism of engineering colleges and the lack of appeal of training paths preparing students for direct entry into industry at advanced technician level (with IUT or BTS diplomas). Yet with very few exceptions, the analysis of these shortages took no account of promotion prospects in the workplace or of the skills and competencies actually available in the labour force. Nor was much account taken of the type of competencies that firms were seeking, since the primary focus of the work was on the “level” of jobs.

16. Labour demand forecasting was gradually phased out in the early 1980s, at least by the *Commissariat du plan*. Some private institutions such as the BIPE continue to do this kind of forecasting work. It serves mainly to regulate the education system. The models used today seek to better reflect promotion prospects throughout a person’s working life. The *Haut Comité Emploi-Economie-Education* (senior committee for employment, the economy and education) is a regular user of such forecasts.

17. At the same time, the Ministry of Labour has encouraged the development of more qualitative work on sector-specific trends in jobs and skills/competencies. These forward-looking studies, known as *Contrats d’études prospectives*, are produced in co-operation with management and labour in individual branches of employment. They highlight trends in the skills and competencies required by firms to adapt to technological change and shifting work patterns. However, France has never undertaken the kind of systematic monitoring of job and skill trends found in the United States. A working party set up by the *Commissariat du plan* in 1991<sup>1</sup> did look into that option, but instead decided to pool all of the work conducted by government departments and research bodies on trends in occupations and jobs (including sector-specific approaches, topical studies on occupations, and sector-specific forecasts).

18. Population forecasts recently prompted the *Commissariat du plan*, the Ministry of Labour and INSEE (the national statistics institute) to launch further quantitative work on labour requirements over the next five or ten years. The findings were published in 2002. This time, the focus of the exercise shifted away from key patterns in the labour force towards the demand for replacement labour. The findings revealed very substantial demand in fields that do not necessarily call for a high level of skills and competencies. The occupations and professions concerned will generally experience sharp numerical growth as the economy grows and large numbers of people retire. Examples include drivers (of buses and trucks) and home carers (e.g. for the elderly, and children).

19. These studies would not have been possible without the creation of a “job family” nomenclature, obtained by collating the National Employment Agency’s jobs repertory known as ROME (*Répertoire des métiers et emploi*) with the INSEE list of occupations and social categories (*Professions et catégories sociales*). The use of this job-family nomenclature, and of econometric models more suited to labour demand forecasting, has led to substantial progress on methodology.

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<sup>1</sup> “Pour une prospective des métiers et des qualifications », report by the working party chaired by Jacques FREYSSINET, La Documentation française, September 1991.

20. One of the merits of this recent work has been to reveal the limitations of reasoning in terms of educational attainment when tackling changes in the structure of jobs and corporate recruitment needs in years to come. Not only are those needs not confined to highly skilled jobs (engineers, managers), but they concern jobs for which potentially available candidates do not always have the requisite skills and competencies. The case of jobs in childcare or homecare for the elderly is a good example. While many female jobseekers might be interested in such jobs (redundant factory workers, for instance), they are seldom taken on for want of the necessary training or skills.

21. These studies accordingly pave the way for work on adult skills and competencies. These are generally assessed by looking at the level and type of training a person has received and the skill requirements of the jobs they do. Such indicators are a very imperfect reflection of the skills and competencies that adults really have. First because their jobs do not necessarily match their real skills. Second because qualifications as assessed by the “Occupations and social categories” nomenclature are confined to broad categories such as managers/engineers, intermediate professions, industrial workers and craftsmen. Formal qualifications might be a slightly more reliable indicator, but many people (some 40%, according to opinion polls) are known to maintain that their jobs are not directly related to their education.

22. There is a particular need to develop further tools for the analysis of skills and competencies now that the gap has widened between the highly qualified younger generations and their elders who have not benefited from the sharp expansion in education over the past twenty years. Skills and competencies acquired in the workplace are probably greatly underestimated in quantitative studies based on formal qualifications. Lack of recognition for the competencies acquired throughout a person’s life also leads to discrimination during the recruitment process, in an environment where formal qualifications are becoming increasingly necessary to obtain skilled employment. To quote an example, the proportion of people with managerial status who have formal qualifications corresponding to at least three years’ study after the French secondary school-leaving diploma (or *baccalauréat*) has increased substantially over the past ten to twenty years. Young people now entering the labour market have little chance of achieving managerial status without that level of qualification. But that pre-requisite does not always suffice to begin a career with managerial status. At the same time, access to managerial status in the course of a career for those with few qualifications has become increasingly difficult, even when their experience has enabled them to develop the requisite skills and know-how to exercise managerial responsibilities. Schemes that recognise an adult’s experience-based skills and provide suitable accreditation (qualifications identical to those awarded upon completion of basic education) should help to remedy this, but they are still too recent to have had any perceptible impact.

23. For all of these reasons, it would be very useful to gain more insight into the skills and competencies actually available in the adult population. Such studies, however, may not address the issue from the same angle, depending on public policy goals. Those seek to achieve one of two aims:

**More in-depth work on meeting labour demand**

24. This involves measuring any gaps between the competencies and skills sought after by firms and those effectively found in people occupying or likely to occupy the relevant posts (jobseekers, possible candidates for promotion). This type of concern does not lend itself well to quantitative studies. It is better addressed in qualitative, sector-specific studies on the competencies directly associated with a particular type of occupation. This approach is not particularly compatible with international comparative studies.

**Greater insight into the “generic” or “cross-cutting” skills that are the most sought after on the labour market as a result of technology change and new working patterns.**

25. Matching jobs and training is not the issue here. In public policy terms, the aim is less about meeting labour-market demand than promoting the employability of the labour force and enhancing their skills to improve productivity. Nonetheless, a pre-requisite for this type of survey is to identify the competencies emerging in new patterns of work. Identifying them is a complex task and little work has been done on the subject. However, surveys on working conditions in France do provide some useful information on phenomena such as computer use or on work situations involving the operation or setting of automatic machinery. Qualitative studies have also looked into the skills and competencies common to service industry jobs. But these analyses have not yet led to the construction of tools to investigate the competencies found among the adult population.

## *II – INITIATIVES TO RAISE SKILL LEVELS IN THE ADULT POPULATION*

26. This type of concern partly resembles the one discussed above but, rather than targeting skills that have been identified from the changes affecting occupations, it seeks to identify skill shortages that may be a handicap for entry to the labour market or to make adults more adaptable in the face of growing job complexity. Here the purpose of the survey will be to set up training programmes to develop basic skills in specific groups, or generic skills that can be used on a variety of situations.

27. Investigations into mastery of the three Rs – reading, writing and arithmetic – are a good example of this approach. Another is work that looks into machine-setting skills. Data using this type of indicator to provide insight into skill levels among the adult population are even more useful when a country that has seen substantial progress in attainment still has a swathe of the population that remains illiterate. Little is known about the social and job-market handicaps stemming from this kind of basic skills deficit.

28. This kind of approach does not have to be confined to basic skills. It can also focus on more complex skills such as fluency in a foreign language or computer literacy, or on the knowledge and skills required to solve problems of varying complexity. These are akin to the concerns addressed by the OECD Literacy Survey.

29. With regard to policymaking, this kind of data has the advantage of warning decision-makers about skill shortages that would not be detected by indicators of attainment. How many people, for instance, are unable to hold a conversation in other than their mother tongue, although they have spent seven or eight years studying a curriculum that included a foreign language? How many are unable to summarise the main ideas in a simple passage of twenty lines, even though they have completed their basic education?

30. But these indicators are not necessarily an adequate basis on which to assess the risks of social and job-market exclusion. It has been recognised that the scores obtained in this kind of survey give only a rough idea of how adaptable a person is in a job situation. It is not the quality of the indicators that is at issue, but the fact that they are too general to address practical situations encountered in the workplace and the many ways of tackling them. A person with poor mental arithmetic skills, for instance, could easily offset the handicap if allowed to use a calculator at work. Similarly, poor knowledge of mechanics does not prevent people who are regularly confronted with vehicle breakdowns from carrying out at least some simple repairs.

31. The central issue here is knowing exactly what is to be measured. Is the aim of the exercise to verify the ability to resolve specific problems considered to be representative of the situations most commonly encountered in the workplace, or to assess some very broad cognitive skills such as those usually measured by psychological testing (e.g. IQ tests)?

32. If it is the former, then the procedure will involve drawing up indicators that reflect broad occupational categories such as those used by Germany in its labour-force forecasting exercises. There, the IAB has drawn up a series of “occupational profiles” based on the job codes used in the *Microzensus* surveys. Occupations are broken down into some ten categories, then into sub-categories defined by a series of verbs. For instance:

Field of activity No. 1: Operating, setting and maintaining machinery.

Field of activity No. 2: Repairs, sales

- repairing, restoring
- selling, advising, negotiating

Field of activity No. 3: Clerical, administrative, technical, inspection work

- writing, calculating, programming
- analysing, inspecting, devising, designing.

33. This type of nomenclature can be used to characterise the jobs people do. But moving on to a study of skills and competencies involves drawing up, for each occupation, a series of questions or problem situations that can be used to assess how well individuals master them. Before undertaking such a survey, some complex methodological work is required. Data collection may prove to be particularly onerous. It may, for instance, involve placing people into real-life or reconstructed situations. Otherwise, skill assessment might amount to no more than knowledge checks. In some fields, tools have already been developed to measure skills; in the case of computer literacy and the use of common software, for instance, the Scandinavian countries have perfected some practical tests that can be conducted in approved centres and result in skill-card accreditation (a kind of “computer driving licence”). This tool is gradually becoming available in France. While now acknowledged to be reliable, it is fairly cumbersome to use and not particularly suitable for use in large-sample surveys. The same can be said of the English language tests available on the market. By and large, France has not developed this kind of skill evaluation tool to a great extent.

34. Returning to the aims of the exercise, the second option is probably easier when it comes to survey methods. They are akin to those used in psychological testing, and so can readily be used in examination-centre situations. However, there is a risk of confining measurements to very broad skills detached from the context in which they might be used. High scores in a battery of such tests probably suggest high adaptability to a wide range of work situations. In other words, there is conceivably a correlation between successful performance in tests measuring cognitive ability – in fields such as logical reasoning, concentration, language, visual and sensory perception, memory or strategic thinking – and the ability to resolve complex problems such as those encountered in highly skilled jobs. Yet that correlation does not mean that a low test-score is a critical barrier to other posts. There is evidence that some people who score well on complex tasks do not necessarily achieve good scores when tested for their cognitive abilities. This is the case for people reaching the end of their working lives. Cognitive test scores are known to decline with age. That does not prevent some professionals from performing very well in senior posts towards the end of their careers.

35. Two French institutions have developed computer tools that can measure cognitive abilities from the various angles mentioned above. The first is INCA, developed at the University of Aix-Marseilles, and it measures a person’s logical and mathematical reasoning using exercises that draw on daily-life situations. The second is STB, developed by the Department of Cognitive Science at the University of Grenoble. This series of tests can serve to plot a person’s performance on a scale, but can also be used in cognitive re-training. The same university has also drawn up job profiles based on cognitive ability requirements, and has then gone on to select candidates using the appropriate tests.

36. It is worth noting that scores in these tests are in general closely correlated with educational attainment. That evidence is significant, since one of the aims of the survey currently being envisaged is to assess skills and competencies that are not necessarily reflected in formal qualifications.

37. It is clear how closely methodological issues are tied to the aims and uses of such a survey. Selecting measurement tools is not just a technical matter. There is no absolute measurement of skills and competencies. At best we can put in place indicators whose strengths and limitations depend on how they have been developed. When asked what intelligence was, A. BINET, the inventor of IQ tests, replied “Intelligence is what my tests measure”.