

The growing importance of generic skills

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January 2009

1. Introduction

Although it is generally recognised that modern economies require the use of continually greater skills, the notion of skill is often translated to mean education. Thus, a more educated workforce is being sought by all governments in the advanced industrialised economies. However, education is not exactly the same thing as skill, and sometimes the amount of education a person has received is only a loose indicator of how skilled that person is, or will be, at work. Education is quite a good indicator for some occupation-specific skills, particularly in the professional and scientific fields of occupations. But even in professional jobs a great deal more than technical expertise is required in order to be a competent worker. What is needed is an array of communication and interactive skills, physical skills in some cases, the facility to work autonomously, as well as traditional cognitive skills. This paper is about these generic skills that are sometimes argued to be an important ingredient of the growing demand for skills. Are they really becoming more important in British industries? If so, why? And what might be the implications?

Also important for employers in many jobs is a set of attitudes to work, such as honesty and reliability. These are sometimes referred to as "skills" by recruitment managers, especially when reporting that they face skill shortages. However, in this paper I shall not be considering such attitudes in the category of generic skills, and will not discuss any potential changes in their importance.¹

Keywords: skills, economics, work, education, technology

2. What Are Generic Skills and How Do We Measure Them?

While most jobs require occupation-specific skills to do them, a generic skill is something that is needed in a range of jobs. How to do word-processing would be a technical example, but many interactive skills involving communication are common to a range of

¹ The phrase "soft skills" is also used to describe such attitudes, though often these are intended to refer to such things as communication skills. I shall shun this ambiguous phrase also.

jobs. Physical strength is another skill or attribute that is needed to do a wide range of jobs, usually the manual ones. In higher-level jobs, one expects to find that occupation-specific skills are in some sense the most crucial. For example, a doctor is expected to be equipped with the appropriate medical knowledge and expertise. Nevertheless, nowadays it is not considered enough for doctors to stand back and prescribe for objectified patients: rather, they must explain their ideas and listen closely to what patients have to say. These "explaining skills" and "listening skills" are not, in principle, different from what has to be deployed to varying extents in many other jobs. In lower-level jobs, the generic skills may be relatively more important, in that a job might not require so much formal training to acquire technical expertise, but still need, for example, good communication skills.

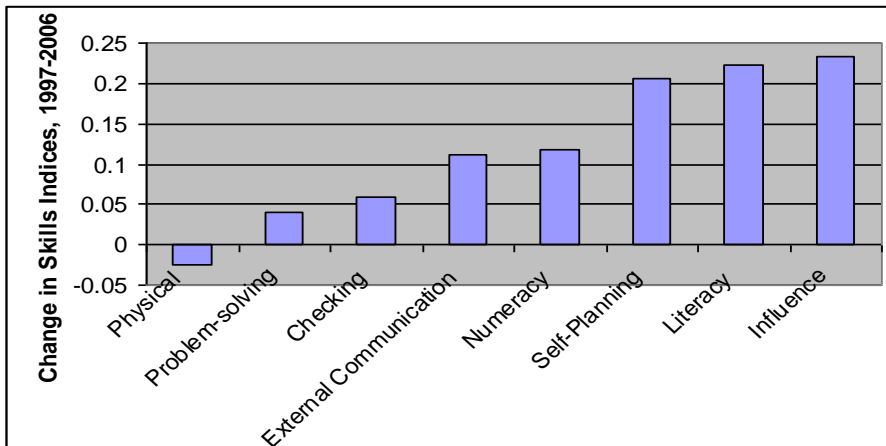
Generic skills might in some cases be something that most people either lack or possess, arising from their lives in general. For example, a worker might have physical skills or the ability to listen well to others, without ever having been taught them. However, even doctors are now trained to have communication skills, and we know from case studies that companies put on specific training programmes. These might be training in the use of computers in some way, for example, the use of particular software, but they can also be for communication and other generic skills. To take one example, Ashton and Sung (2002) report that substantial resources are spent on staff development in the Laiki Bank in Cyprus, and a training programme is designed to inculcate customer service skills, communication skills, service skills, negotiation skills, sales skills, and so on. These are activities which, while highly productive for the bank, could be found in many other jobs in any country, and not just in the banking industry. According to Ashton and Sung, generic skills use and relevant training programmes are often found in "high-involvement" organisations, that is, organisations which set in train a raft of practices designed to maximise employee involvement in the objectives of the organisation.

I return below to the role of employee involvement as a potential driving force in increasing the use of generic skills across the economy. While such studies of individual workplaces or sectors have often hinted that generic skills have become more important in recent decades, it is only in the past few years that quantitative research has shown that the growth of generic skills use is pervasive across much of modern industry.

We know this from surveys of what workers actually do in their jobs. In the three UK Skills Surveys (1997, 2001 and 2006) the job requirements approach was used to frame questions about the tasks involved in respondents' work (Felstead et al, 2007). The use of computers – their importance in the job, and the level of complexity – is perhaps the most obvious example. Workers were also asked about the importance of 'making speeches or presentations' (an aspect of communication skills), the use of physical strength or stamina, the importance of planning activities and many other work tasks. The responses were scored and then averaged in groups to give indicators of generic skills in several domains. These domains are influence skills, literacy, self-planning, numeracy, physical skills, checking skills, problem-solving and external communication skills. The constituent activities included in each domain are listed in Table 1 below.

3. The Growth in the Use of Generic Skills

Figure 1 Changes in the Use of Generic Skills, 1997-2006.



Source: Skill Surveys, 1997 and 2006.
Each skills index ranges from 0 to 1.

Figure 1 shows how generic skills (other than computing skills) have grown in use between 1997 and 2006. As can be seen, the skills that appear to have risen the most are influence skills, literacy and self-planning. The first two of these are aspects of communication skills, while influence skills can also be categorised under interactive skills. Thus we can see that the quantitative evidence confirms the earlier unsystematic reports of case studies about the increased importance of such skills. Meanwhile, there have been much more moderate increases in numeracy skills use and in external communication skills, even smaller rises in checking skills, and no statistically significant changes at all in the use of physical skills or of problem-solving skills. This last finding – unchanging use of problem-solving skills – is somewhat surprising in the light of the case studies literature. I return to this apparent puzzle later.

Table 1 The Growth of Generic Tasks

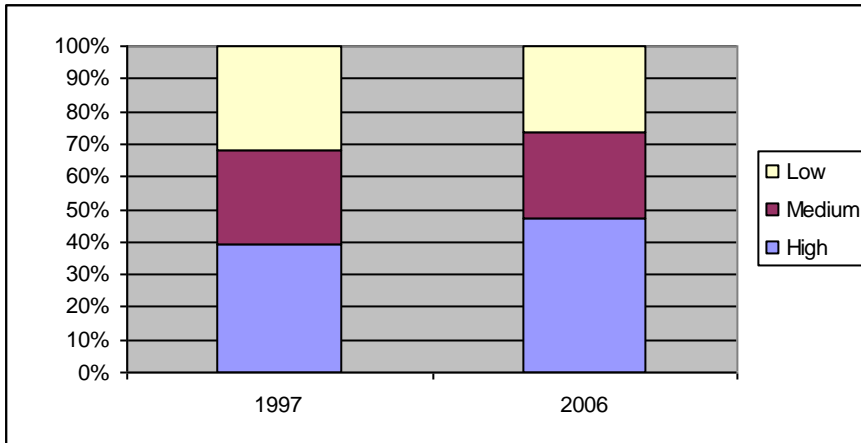
	% for whom task is "essential"	Change in % for whom task is "essential".
JOB TASKS	2006	1997-2006
LITERACY		
reading written information, eg forms, notices or signs	53.48	4.59
reading short documents eg letters or memos	44.91	7.2
reading long documents eg long reports, manuals, etc	28.42	6.25
writing material such as forms, notices or signs	41.64	6.81
writing short documents, eg letters or memos	35.18	8.05
writing long documents with correct spelling/grammar	20.82	6.1
NUMERACY		
adding, subtracting, multiplying or dividing numbers	33.69	-0.29
calculations using decimals, percentages or fractions?	25.93	1.29
more advanced mathematical or statistical procedures	11.99	1.57
COMMUNICATION: EXTERNAL		
knowledge of particular products or services	40.99	5.74
selling a product or service.	21.18	-2.81
counselling, advising or caring for customers or clients	39.24	2.96
dealing with people	64.97	4.81

COMMUNICATION: INFLUENCING OTHERS		
instructing, training or teaching people	30.45	5
persuading or influencing others	21.46	4.95
making speeches or presentations	11.02	3.97
analysing complex problems in depth	26.02	6.49
planning the activities of others	15.26	1.43
listening carefully to colleagues	47.04	8.87
SELF-PLANNING		
planning your own activities	37.83	6.05
organising your own time	44.43	8.89
thinking ahead	44.01	6.26
PROBLEM SOLVING		
spotting problems or faults	43.45	-3.14
working out the cause of problems or faults	36.26	-1.02
thinking of solutions to problems	38.1	2.2
PHYSICAL		
physical strength eg carry, push or pull heavy objects	14.08	-0.69
work for long periods on physical activities	16.19	1.05
skill or accuracy in using your hands or fingers	22.53	-1.68
use or operate tools, equipment or machinery	31.42	-3.13
CHECKING		
noticing when there is a mistake	50.42	3.53
checking things to ensure that there are no errors	48.3	2.54
paying close attention to detail	61.36	-4.26
COMPUTING		
using a computer, pc, or other computerised equipment	49.3	16.3

The last row of Table 1 shows also that computing skills have been rising particularly fast: the proportion of employees for whom computers are essential to their jobs has risen by 16.3 percentage points. We do not have a separate scale for computing skills. However, further analysis not shown in the table implies that the level of usage of computing skills has also been increasing. The proportion using computers to perform complex or advanced tasks (examples ranging from use of statistical packages to advanced programming) rose from 16.3% in 1997 to 22.6% in 2006.

The rising use of literacy skills bears closer examination: does this increase come at the top end with rising proportions of employees in literate jobs requiring extensive writing and reading at high levels of accomplishment? Or does the increase come at the bottom end, from a decline in the number of jobs that can be done without any basic reading or writing?

Figure 2 High and Low Literacy Usage

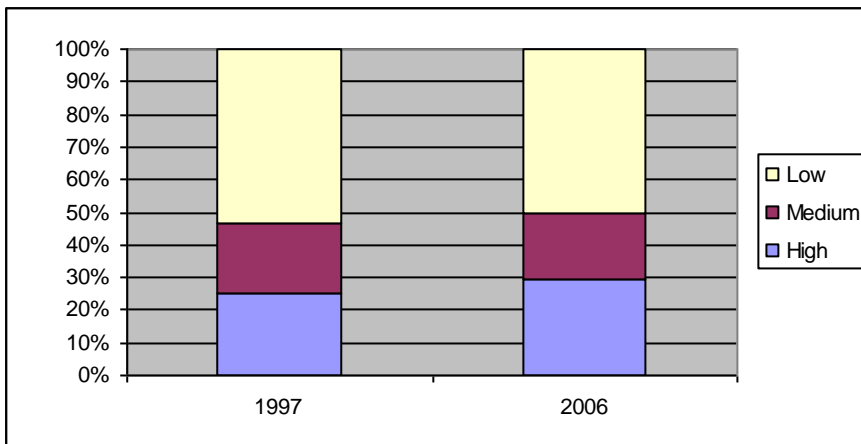


Source: Skill Surveys, 1997 and 2006.

Figure 2 divides the literacy scale into three levels. It can be seen that both tendencies are in play. Jobs in Britain are being literacy up-skilled at either end of the spectrum – suggesting that basic literacy policies are needed but that there is also an ongoing workplace need for improving the supply of workers capable of relatively high levels of literacy.

A look at the specific activities contained in the literacy index confirms the same story. Table 1 lists all the activities involved in each domain, and displays the extent to which their importance has changed over the period 1997 to 2006. It can be seen that for both basic and advanced activities there are increases in the percentage of workers for whom the task is an essential part of the job.

Figure 3 High and Low Numeracy Usage



Source: Skill Surveys, 1997 and 2006.

Figure 3 shows the same analyses in respect of the use of numeracy skills. Altogether, numeracy requirements rose much more slowly over the period, and this is reflected in the fact that none of the constituent activities changed very much. One can see from Figure 3 that numeracy requirements changed very modestly over the decade at both ends of the spectrum.

4. Explaining the Changing Use of Generic Skills.

The increased demand for generic skills is very broadly consistent with the theory of skill-biased technological change.² This is the idea that prevailing new technologies have tended to complement (and hence lead to rising demand for) high-skilled labour, while reducing the demand for low-skilled labour. Sometimes the argument is framed as a requirement of the 'knowledge economy', where high-skills-related knowledge advantages are at the heart of generating a competitive edge.

Nevertheless, as has been seen there is quite a range of generic skills, and not all generic skills are increasing in their use. Looking at Figure 1, one plain observation is that the rise of the cognitive element implicit in literacy and in influence skills seems consistent with the theory of rising demand for educated labour. However, not all these elements are merely cognitive. The rising use of interactive skills, especially the influence skills, calls for some explanation.

In recent years researchers have formed a more nuanced account of the factors leading to changing skills demand (Autor et al, 2003). A careful consideration of what kinds of tasks are likely to be affected by automation leads to the hypothesis that it is mainly routine tasks that can be replaced by a software programme. Routine tasks can be manual, such as painting a new car, or non-manual, such as adding up the cost of a shopping basket. Both examples are tasks that are rarely performed by humans nowadays in modern economies because they have been able to be replaced by robots in factories or computerised cash tills in supermarkets. By contrast, non-routine tasks cannot be replaced since they require flexible judgements or physical actions in response to eventualities that are hard to foresee; only humans can perform these actions. There are, as yet, no robot lorry drivers on our motorways, no robot carers in our care homes, and no companies managed by digital CEOs.

Computers and automation thus replace routine tasks but not non-routine tasks. At the same time, they may also expand the use of certain non-routine tasks with which the technologies are complementary. To make effective use of the new technology, new operations have to be created, networks to be formed, and functions and jobs may need to be re-organised (Bresnahan et al, 2002). A raft of higher-level cognitive and interactive skills seems to be required to carry out these tasks. Analytical skills come into play in deciding the most effective and strategic ways of deploying the new possibilities that computers offer. Communication skills of a higher order are then needed to bring about the changes and to operate in the more fluid and innovative environment, in which new ideas are required to be generated, absorbed and transmitted. Often the cognitive and interactive skills, though in principle separate, are combined in the same tasks, such as when a team worker makes a presentation to clients or colleagues. These kinds of skills usually need higher levels of education, and it is for this reason that the impact of the computer revolution is thought to be an important factor behind the rising demand for highly educated workers in modern economies.

Note, however, that the rising use of computers does not predict a falling demand for lower-level skills if they involve non-routine activities. Thus, there may be a tendency in some countries for there to be rising numbers of workers doing such jobs, even at the same time as there are increasing numbers of highly educated workers carrying out the tasks requiring high cognitive and interactive skills. This process is described as a polarisation of labour markets, because it means that the proportion of jobs with both high and low level skills is increasing, while the proportion of jobs in the middle is declining (Goos and Manning, 2006). This process has been detected in Britain (up to the end of the 1990s), the United States, and, in recent years, in France and the Netherlands. However, it is not found in most other countries in continental Europe, and the recent picture in Britain is also more complex (Fernández-Macías and Hurley, 2008).

² See, for example, Machin and van Reenen (1998)

This mixed picture arises because technology is by no means the only force that is driving the structure of jobs in our modern economy.

One additional factor that helps to explain the rising demand for communication skills is organisational change. To a certain extent, managers have been changing their work organisations in response to the changes in technology made possible by computers. However, independently, managers have been drawing on new ideas about ways to get the most out their workers, especially given the declining presence of trades unions. One of these ideas is described by the catch-all phrase "employee involvement". Broadly, this means the attempt to induce employees to become more committed to the organisation's objectives. This process could simply operate through improved incentives, for example by linking performance to pay in some way. However, there are limits to which this can be done for many workers, and the alternative favoured by many employers and management theorists is to seek the emotional commitment of workers, so that they identify more with the firm's values and vision, and are prepared to work harder for it, in particular to contribute ideas for productive improvements, and to stay with the firm longer than otherwise. This movement for "high-involvement management practices" has been going on for at least 20 years, and involves a raft of policies and strategies, including, among other things, the use of quality improvement circles, good communication between management and employees, via regular informative and/or consultative meetings, suggestion schemes, worker surveys and so on, use of a formal appraisal scheme, and teamworking. Alongside these organisation policies one would often expect workers to be granted greater autonomy in their jobs in a high-involvement firm. These new organisational practices, as well as the new technology, call for more communication skills of various kinds, and recent evidence suggests that the steady spread of high-involvement management practices may be partly behind the growing use of communication skills, including literacy, displayed in Figure 1.

5. Conclusion.

The evidence is that certain generic skills are being increasingly used in the British economy. Notably, it is influence skills, literacy, and self-planning that have been growing the fastest, while others, such as physical skills, have remained unchanged. In other words, both cognitive and interactive skills are increasing. It is likely that the inexorable spread of computer-based technologies have been one major driving force behind the changing use of skills, but this force is supplemented by the slow but steady spread of high-involvement management practices in both private and public organisations.

The relevance for labour markets is that scarce skills can affect the structure of pay in labour markets. While a number of skills can quite easily be generated as needed within firms, either by formal training schemes or through providing a conducive learning environment, sometimes skills become scarce, cannot easily be supplied in the short run, and acquire a "quasi-rent". Influence skills, in particular, appear to have acquired a premium in recent years, even more so when used in a complementary way with the deployment of computer skills (Green et al, 2007).

The relevance for education and training systems is two fold. First, the rising demands for higher-level cognitive and interactive skills provides some substance to the idea that modern jobs are indeed requiring steadily higher-level skills that need to be met by increasingly higher-educated workers. There is, thus, a continuing economic rationale for educational expansion, in addition to the many social and moral arguments in favour. Second, policies for education and training curricula should reflect the identified needs for communication skills in modern workplaces. This means not just the continuing demands for a more literate workforce that can write and read adequately to convey meanings concisely and accurately, but also the evident requirements for communicating

through interacting with other people. Whether in teams or through making presentations, or through influencing people to think differently, or helping to solve the many complex problems of modern workplaces, increasingly modern workers need to be able to communicate with others, and listen to them, in more sophisticated ways than in earlier days. Educationalists might like to take note of how this might affect the ways we teach the arts of communication in our schools.

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This document has been commissioned as part of the UK Department for Children, Schools and Families' Beyond Current Horizons project, led by Futurelab. The views expressed do not represent the policy of any Government or organisation.

