DOCUMENT RESUME

ED 376 293 CE 067 526

AUTHOR Devine, Marion; And Others
TITLE School for Skills. A National Survey of the Development through TVEI of Personal and Transferable Skills. Technical and Vocational Education Initiative.
INSTITUTION Scottish Council for Research in Education, Edinburgh.
SPONS AGENCY Scottish Office Industry Dept., Edinburgh.
PUB DATE 94
NOTE 64p.; For related case studies, see CE 067 527.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS *Basic Skills; *Critical Thinking; Educational Research; Employer Attitudes; Foreign Countries; Higher Education; *Interpersonal Competence; National Surveys; Problem Solving; Secondary Education; *Skill Development; Student Attitudes; Student Records; Teacher Attitudes; Transfer of Training; *Vocational Education; Work Experience
IDENTIFIERS *Scotland; *Technical and Vocational Education Initiative

ABSTRACT

An evaluation was conducted of the development of those transferable and personal skills which had been given particular prominence by the Technical and Vocational Education Initiative (TVEI) in Scotland. Questionnaires were sent to the following: pupils and TVEI coordinators in 80 secondary schools; 30 school leavers from one further education (FE) college in each region; the school liaison coordinator in each FE college; school liaison coordinators in all higher education (HE) institutions; and a sample of employers. Findings indicated that oral communication was the one skill considered very important by more than half of all FE and HE staff and employers. Employers valued three qualities or skills most highly: willingness to work, ability to communicate orally, and ability to work as part of a team. Most young people tended to believe that all skills were very important. Over 80 percent of employers were satisfied with the performance of today's school leavers in terms of ability to communicate orally and work on a team. Staff in the majority of schools considered the ability of pupils in all skills had increased. One or more of the groups noted changes in the school curriculum and assessment, various aspects of TVEI, and changes in teaching methods as factors influencing improvements in competence. The largest numbers of both secondary and FE students found teamwork skills and using technology very easy. For both groups, the skills of problem solving, taking responsibility, and enterprise were the most difficult. The great majority of employers provided work experience for pupils. Very small numbers of HE and FE institutions used Records of Achievement. (YL)

REPORT

Technical and Vocational Education Initiative

School for Skills

A national survey of the development through TVEI of personal and transferable skills

Marion Devine
Sue Minguard
Harry Black
Natalie Fenwick

The Scottish Council for Research in Education

First published 1994

Report arising from a research project funded by the Scottish Office Industry Department.

Acknowledgements

We are grateful for the assistance and insights provided by members of the project committee throughout the period of this study. Thank you also to all the TVEI project co-ordinators who assisted us in our contacts with schools and employers.

We would also like to express our gratitude to all those who took the time to complete our questionnaires. These included senior staff and pupils in schools, school liaison staff and students in FE colleges, school liaison staff in HE institutions and employers.

Special thanks are due to teachers and pupils in the various schools which we visited during the second stage of the study.

Thank you also to Kay Young our project secretary who successfully coped with our frequent changes of content and style.

Marion Devine
Sue Mingard
Harry Black
Natalie Fenwick

Contents

Page

Tables

Page

Figures

Executive summary

The skills which were the subject of this evaluation were, communicating, working individually and in teams, problem solving, taking responsibility and enterprise.

Valued skills

- Oral communication was considered very important by the majority of employers and staff in further and higher education. In addition, staff in HE institutions valued the ability to work individually and to solve problems. Employers valued the ability to work as part of a team.

Changes in the performance of young people

- More than half of respondents in schools, HE institutions and FE colleges noted an increase in the ability of young people to communicate orally, work in teams, solve problems and use modern technology.
- Senior staff in schools were almost unanimous in noting increases in all skills.
- Over 80% of employers were satisfied with the performance of recent school leavers in the ability to communicate orally and work in a team.

Factors influencing change

- Changes in the school curriculum, various aspects of TVEI and changes in teaching methods were the three most frequently mentioned factors responsible for improvements in competence.

Pupils' ease with skills

- The majority of both school pupils and college students found working in teams and using technology very easy.
- For both groups of young people the skills of communicating in a foreign language, problem solving, taking responsibility and enterprise were difficult.
- Girls were more likely to feel at ease in communicating, working in teams and working individually. Boys were more likely to be at ease with modern technology, problem solving and enterprise.
- Pupils intending to go to university, found most of the skills easy, those intending to go straight into a job found them difficult. There were no differences on skills related to the use of modern technology.

Comparisons between today's pupils and those of five years ago

- There have been improvements in the ease with which pupils use skills over the whole ability range (as measured by pupil aspiration).

- The greatest improvement in pupil 'comfort' is in teamwork and the least improvement is in oral communication.

Teaching methods

- An increase in teaching which used modern technology was reported by staff in almost all schools. Staff in three-quarters of schools also reported that the use of group work, differentiated work, resource-based learning and team teaching had increased.
- Teachers in most schools reported that whole-class teaching had decreased.
- The pattern of changes in teaching methods in FE colleges and school was similar although more change seemed to be taking place in schools than in colleges.
- Most young people identified whole-class teaching as being very common About one-third of pupils stated that pupils very often worked at their own pace on the same work as others in the class. Less than 10% of pupils reported that group work, differentiated work or team teaching was commonly used.
- Working at their own pace on the same work as others was favoured by the largest single group of young people. Less than one-third of them thought that whole-class teaching suited them very well.
- Teaching methods which helped learning appeared to be better matched for girls than for boys and better matched for pupils at S3/S4 than at S5/S6.

Factors influencing changes in teaching methods

- Changes in teaching methods were reported to have been brought about by the influence of TVEI, new courses and targeted staff development.

Work experience

- The great majority of employers provided work experience for pupils and identified this link with schools as the one they valued most highly.
- More than three-quarters of employers agreed that school leavers who had been on work experience were better prepared for employment than those who had not.
- Staff and pupils in the majority of schools believed that work experience gave pupils the opportunity to find out what employers want and gave pupils more responsibility than usual. In addition, young people thought that it gave them the opportunity to work in a team and on their own and to improve their communication skills.
- Girls were more positive than boys towards a whole range of opportunities connected with work experience. The exceptions were in the opportunities to solve problems and use computers or technology where boys were more positive.

Records of Achievement (NRA/ROA)

- One-quarter of employers who had seen a NRA/ROA had been involved in commenting on the format or content

- Staff in two-thirds of FE colleges encouraged students to add to their NRA/ROA while at college.
- Very small numbers of HE or FE institutions used NRA/ROA as a source of information on prospective students.
- More than three-quarters of employers found the document useful for information on qualifications and credits, details of school achievements and achievements and experiences outside school.

TVEI-related experiences for school staff

- Responses from over three-quarters of schools indicated that at least some* staff had been involved in TVEI-related staff development, curriculum development and had benefited from additional resources.

School/industry links

- Over 90% of employers provided work experience for pupils in school and about half of them had other direct contacts with pupils through the provision of career advice and mock interviews.
- Employers would welcome further involvement in curriculum development and school/industry working groups.
- A larger percentage of schools than FE colleges were involved in education/industry links. Very small numbers of either were involved in teacher placement in industry.

Particular approaches to promoting the acquisition of 'TVEI' skills

- Whole-school approaches reported in two of the vignette studies were an audit of skills and relevant staff development. Several common themes emerged for the successful implementation of these initiatives:

  begin with a small band of enthusiasts;

  identify existing good practice;

  consult widely;

  make the best use of existing expertise within the school;

  analyse staff needs;

  target staff development;

  provide staff development for all staff;

  phase in initiatives;

  ensure that senior management is seen to be supportive.

- Schools used a number of special courses designed to promote a range of personal and transferable skills. These included SVS as an entitlement, PSD for senior pupils and enterprise education. To a large extent these courses depended on:

  making pupils aware of the skills being taught;

---

*In the questionnaire a four point scale was used where

1 = most staff 2 = some staff

3 = a few staff 4 = no-one

using pupil-centred teaching methods;
emphasising choice for pupils;
explicit coverage and assessment of identified skills.

Pupils with special educational needs

- Staff in special schools were of the opinion that the acquisition and development of transferable skills permeated the whole curriculum for their pupils.
- The skills of oral communication, solving problems and taking responsibility were of paramount importance.
- Whenever appropriate, modern technology was used to enhance pupils' ability to communicate.
- Staff in special schools were more likely than staff in mainstream schools to use team teaching and differentiated teaching. They also used teaching methods which were not mentioned by any teachers in mainstream education:

  positive teaching; gentle teaching and behaviour modification.
- Where learning support was available to mainstream teachers over a number of years, these teachers became more aware of the need for differentiated teaching and became less dependent on learning support specialists for assistance.

1 Introduction to the evaluation

The first TVEI pilot projects were launched in Scotland in 1984. Since then every local authority secondary school and further education college in every region in Scotland has been influenced by TVEI and a series of evaluations at both the national and local level has been undertaken to keep track of a range of initiatives.

In seeking to prepare young people for life after school, it was recognised that there was a need to emphasise the kind of skills which were considered to be essential for the demands of a rapidly changing society. The development of these personal and transferable skills played a key role in the philosophy of TVEI and featured widely in personal and social education programmes for young people in school. As TVEI is becoming more and more an integral part of the secondary education scene, this seems an opportune moment to investigate the effectiveness of the considerable investment made by TVEI in the development of such skills.

The focus statement

In 1989 TVEI issued a Focus Statement which has been found useful as a reference point in conducting this evaluation. TVEI aims to equip young people aged 14-18 for the demands of working life in a rapidly changing, highly technological society:

- by relating what is learnt in schools and colleges to the world of work;
- by improving the skills and qualifications for all, particularly in science, technology, information technology and modern languages;
- by providing young people with direct experience of the economy and the world of work through real work experience;
- by enabling young people to be effective, enterprising and capable at work through active and practical learning methods;
- by providing counselling, guidance, Individual Action Plans, Records of Achievement and opportunities to progress to higher levels of achievement.

The current study

In 1993, the TVEI Unit of the Scottish Office Industry Department, now responsible for overseeing the extension projects asked SCRE to conduct an evaluation of the development of those transferable and personal skills which had been given particular prominence by TVEI. The skills included communicating, working individually and in teams, problem solving, taking responsibility and enterprise. The evaluation had two main aims:

- to assess the extent to which TVEI has enhanced the acquisition of transferable and personal skills;
- to identify any particular approaches used in TVEI which have proved successful in promoting the acquisition of those skills.

This introductory chapter outlines the method used for the evaluation and describes the structure of the report.

The method used

TVEI is specifically designed to focus on young people aged 14-18 years in full-time education and to prepare them for the demands of adult life beyond school. It was therefore considered appropriate to seek information from a wide range of sources with an interest in students in this age bracket. These sources included teachers in secondary schools, school liaison personnel from higher and further education, employers and young people themselves. The young people were drawn from pupils at S3, S4, S5 and S6 and recent school leavers attending further education (FE) colleges.

Questionnaire survey

In order to address the first aim of the study, a number of postal surveys were carried out. Questionnaires were sent to various institutions and groups of people.

Secondary schools

- One class of pupils from each of the years S3, S4, S5 and S6 in a random sample of 80 schools from across Scotland. This represented about 20% of mainstream schools.
- TVEI school co-ordinators (or an appropriate member of the Senior Management Team) in the same schools.

FE colleges

- A group of 30 recent school leavers from one FE college in each region.
- The school liaison co-ordinator in every FE college.

Higher education (HE)

- The school liaison co-ordinator in every HE establishment.

Employers

- A range of employers identified by TVEI project co-ordinators in each region.

The questions sought information on:

- the value of a range of qualities and skills to the various groups;
- which teaching methods and subjects were believed to be effective in developing these qualities and skills in schools;
- the extent to which there appeared to be changes in young people's competences over the last few years;
- what factors were perceived to be responsible for any such changes.

Other questions related to methods and strategies closely associated with TVEI such as work experience and Records of Achievement.

Vignette studies

The second aim required a different more qualitative study. A small number of schools were identified by TVEI advisers and project co-ordinators as providing examples of interesting practice arising from their commitment to TVEI. Each

school was visited by two researchers over a number of days and the visits followed the same pattern in all schools.

Interviews were held with key members of staff in the school. These included members of the Senior Management Team, guidance staff, principal and senior teachers, class teachers and non-teaching staff. The choice of staff was left to the discretion of the TVEI school co-ordinator and allowed us to explore the various initiatives from the point of view of those who were most involved. In most cases, group discussions were also held with pupils in each of the years from S3 to S6.

All staff in the schools visited (apart from members of the Senior Management Team) were invited to complete a questionnaire. This questionnaire contained a core of questions taken from the national survey and included additional questions specific to the school's area of special interest.

Questionnaires were also completed by about 30 pupils from each of the years from S3 to S6.

Special educational needs

One of the aims of TVEI is to improve the skills and qualifications of all young people. While recognising the difficulty of catering for the diversity of special education as part of a general survey of schools it was considered essential to do justice to the concern of TVEI for young people with special educational needs (SEN). After discussion with the advisory committee for the project, we conducted a detailed study of practice in one authority which operated a system of separate provision for pupils with special educational needs. In the selected authority, interviews were held with staff in four special schools. Promoted and unpromoted staff in all special schools were invited to complete a questionnaire giving their views on the value and development of 'TVEI' skills for their pupils.

In addition, one mainstream school with a special unit for pupils with special needs was visited. In this school, we spoke to all members of staff involved with the unit and with learning support throughout the school. Questionnaires were completed by subject teachers who taught pupils with recorded needs in their mainstream classes.

The structure of the report

The report is published as two separate parts. Part one draws on material from the national surveys of schools, higher and further education institutions and employers. Part two focuses on the vignette studies - five schools in five different authorities and the study of one local authority's provision for pupils with special educational needs. A concluding summary drawn from both sets of information is included in each of the parts. In addition, an executive summary, which highlights points of interest from both the national survey and the vignette studies, precedes each introductory chapter.

School for Skills: A national survey of the development through TVEI of personal and transferable skills

The amount of data generated by this project was large and complex. The questions for the different respondents were designed to be, as far as possible, parallel to each other so that we could compare the responses of different groups to the same set of questions. Inevitably, however, there were some questions which were only appropriate to ask of one group. In order to compare and

contrast the perceptions of the various groups and to take advantage of the wealth of interrelated material, this section of the report has mainly been organised according to thematic issues drawn from the findings.

In order to set the findings in context, Chapter 2 provides a description of the general characteristics of the various groups sampled. The next three chapters focus on two main themes - the perceived value of 'TVEI' skills to young people, their teachers and employers and the contribution of schools to the development of these skills. Chapter 6 considers the impact of two initiatives which have been closely associated with TVEI; the introduction of work experience for young people and the development of Records of Achievement. Information is also provided about school/industry links between the educational establishments and employers.

Points for discussion drawn from the preceding chapters are highlighted in Chapter 7. References to relevant information from the vignette studies are included. The survey section concludes with a brief overall summary from both the survey and the vignettes studies. This summary is repeated in both sections of the report.

School for Skills: Vignette studies focused on the development through TVEI of personal and transferable skills

Following the executive summary and an introductory section which describes the general approach used in the vignette studies, each vignette is reported separately.

The schools which were the focus of the vignette studies were selected on the advice of TVEI project co-ordinators and advisers. While all schools used a range of strategies to encourage the development of 'TVEI' skills in their young people, some of their approaches are of particular interest and formed the core of our studies.

Vignette A	A whole-school approach to the development of skills.
Vignette B	Personal and social development for senior pupils.
Vignette C	Curriculum-led skills development.
Vignette D	Staff development as the key to the development of skills.
Vignette E	The development of 'TVEI' skills in pupils with SEN.

None of the staff of the schools studied would claim to be experts in facing the challenge of promoting the development of personal and transferable skills in their pupils nor would they claim that their strategies are unique. However, they were all considered to have a commitment to the philosophy of TVEI and to be making headway with the task of ensuring that their pupils had opportunities to acquire, develop and practise 'TVEI' skills. They were also all willing to allow researchers into their schools and prepared to disrupt their own time-table to make allowances for ours.

Points of interest from all of the vignette studies are drawn together and this part concludes with a repeat of the overall summary contained in the survey section. This returns to the two main aims of the study. Evidence is summarised to show the extent to which it can be said that TVEI enhances the development of transferable and personal skills. In addition, particular approaches which have been successful in promoting the acquisition of these skills are reported.

2 Setting the scene

Four organisational groups were involved in this study - secondary schools, FE colleges, HE institutions and employers. This chapter provides a brief description of the characteristics of each group from which information was gathered.

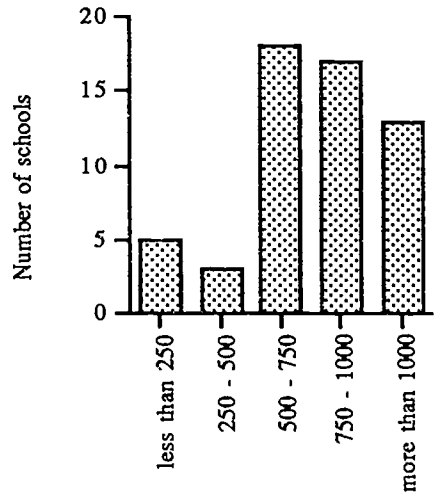
Schools

A total of 80 schools across Scotland were contacted and 57 schools (71%) responded in time to be included in the analysis. Every Region and Island Authority was represented in the returns and the range of location and size of schools is shown in Table 2.1 and Figure 2.1

Table 2.1: Location of schools

Authority	% of total respondents
Highland	4
Grampian	9
Tayside	7
Fife	7
Lothian	14
Borders	2
Central	7
Dum. & Gall	2
Orkney	2
Shetland	3
Western Isles	5
Strathclyde	38

Figure 2.1: Number of pupils

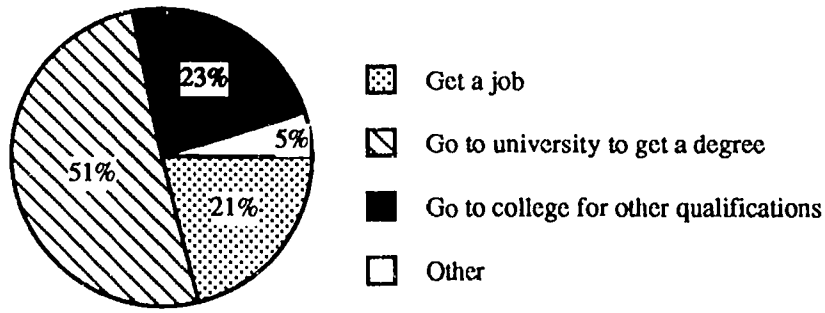


Completed questionnaires were received from a total of 4,214 pupils. The numbers by year group are shown in Table 2.2 and their aspirations for the future are shown in Figure 2.2.

Table 2.2: Numbers by year

S3	1,264
S4	1,222
S5	970
S6	758

Figure 2.2: Pupils' aspirations for the future



FE colleges

Colleges were contacted in two different ways. One large college from each of 14 different authorities was asked to select 30 full-time students who had recently left school to complete questionnaires. A total of 346 student responses were received from 13 of the 14 colleges. All other Scottish colleges were contacted and the member of staff responsible for school/college liaison was asked to complete a questionnaire. A total of 27 out of 48 colleges responded (56%). Figures 2.3 and 2.4 show the student numbers in these colleges and the proportion of students who were recent school leavers.

Figure 2.3: Number of full-time students

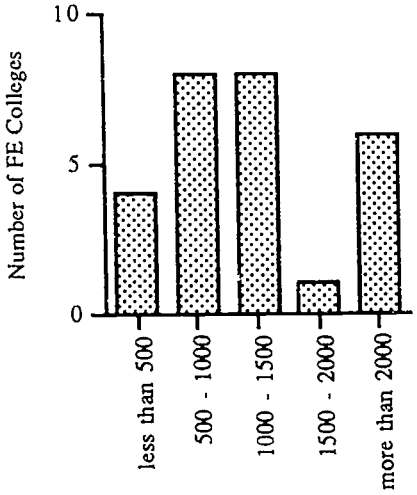
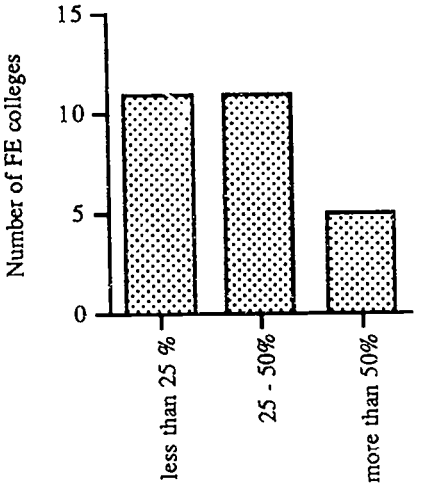


Figure 2.4: Proportion of recent school leavers



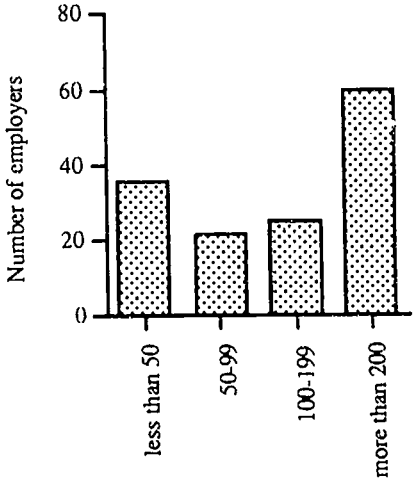
Higher education institutions

One questionnaire to be completed by a member of staff with responsibility for school liaison was sent to a total of 26 universities and other institutions of higher education in Scotland. Eighteen questionnaires were returned (69%).

Employers

A total of 242 questionnaires was sent to named persons in each company and responses were obtained from 144 (60%). The companies were drawn from across Scotland and Figure 2.5 shows the range of sizes.

Figure 2.5: Number of employees



The companies represented both manufacturing (e.g. construction, engineering, processing and maintenance) and service industries (e.g. personal, finance, public sector, retail, catering, plumbing and transport). Figure 2.6 shows the distribution of each. Companies were also asked about the types of jobs which were offered to school leavers. Four categories were suggested and employers who offered more than one type of job were asked to indicate which was most commonly offered to school leavers. Figure 2.7 shows the results.

Figure 2.6: Main function of company

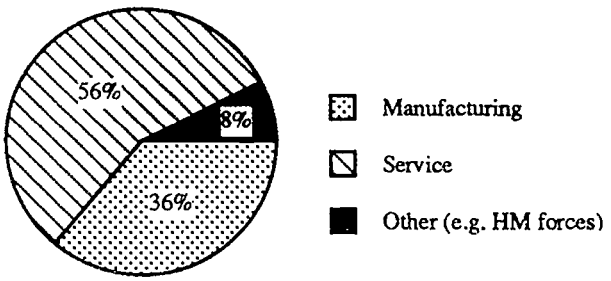
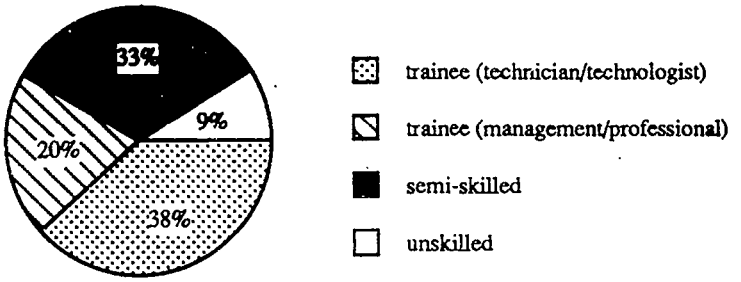
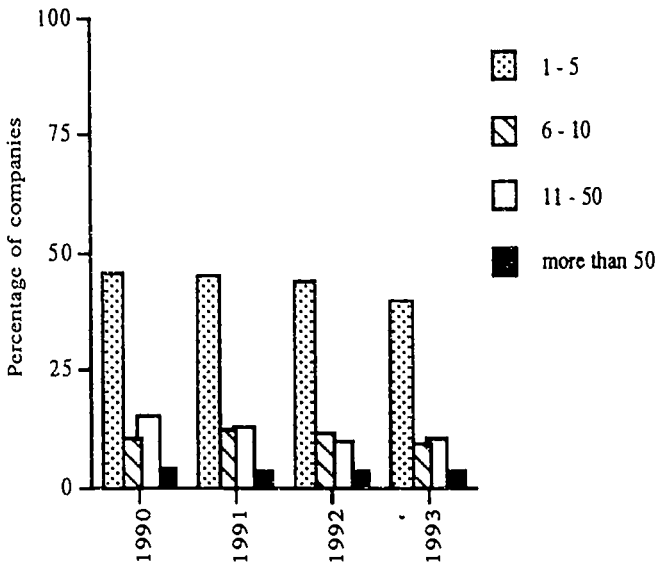


Figure 2.7: Jobs offered to school leavers



Since many of the questions related to employers' perceptions of recent school leavers companies were asked to indicate the numbers of school leavers recruited over a four year period from 1990 to 1993. Figure 2.8 shows the responses.

Figure 2.8: Number of school leavers recruited



These employers were not, of course, a random sample. They were selected by TVEI project co-ordinators in the regions as employers with whom they had had some contact. It would, therefore, be expected that their links with schools would be more varied and more extensive than the 'average' employer. Further details of these links are provided in Chapter 5.

In the analysis of the data in the following chapters, we have not only looked at differences between the perceptions of the groups, we have used some of the above characteristics to explore differences within the groups. Where differences are noted, these are statistically significant at the 95% confidence level or above.

3 Qualities and skills

TVEI aims to prepare 'young people aged 14 - 18 for the demands of working life in a rapidly changing highly technological society' (TVEI Focus Statement). Acceptance of the rapidly changing nature of society makes it essential for learning and teaching to focus on those skills which will help young people to cope effectively in a range of situations and which are transferable from one context to another. The skills which have been given particular prominence by TVEI and which have, therefore, been the focus of this evaluation are communicating, working individually and in teams, problem solving, taking responsibility and enterprise. In keeping with an initiative which stresses the highly technological aspect of the changing workplace, the ability to use technological skills is also included. Collectively, for the purpose of this report, these skills will be referred to as 'TVEI' skills.

In this chapter we concentrate mainly on the perceptions of those groups who are going to build on the skills which young people have developed in schools i.e. FE colleges, HE institutions and employers. To what extent are the skills which have been the focus of TVEI those which are valued outside school? Are there differences between the groups which might be of value in providing career guidance to pupils with different aspirations? The employers in our sample offered a range of different types of posts to school leavers. What difference did this make to the skills they valued in their recruits? Given that further and higher education institutes value certain skills in the young people who wish to continue their studies, what sources of information are used during the admission procedures which would help them to assess these skills?

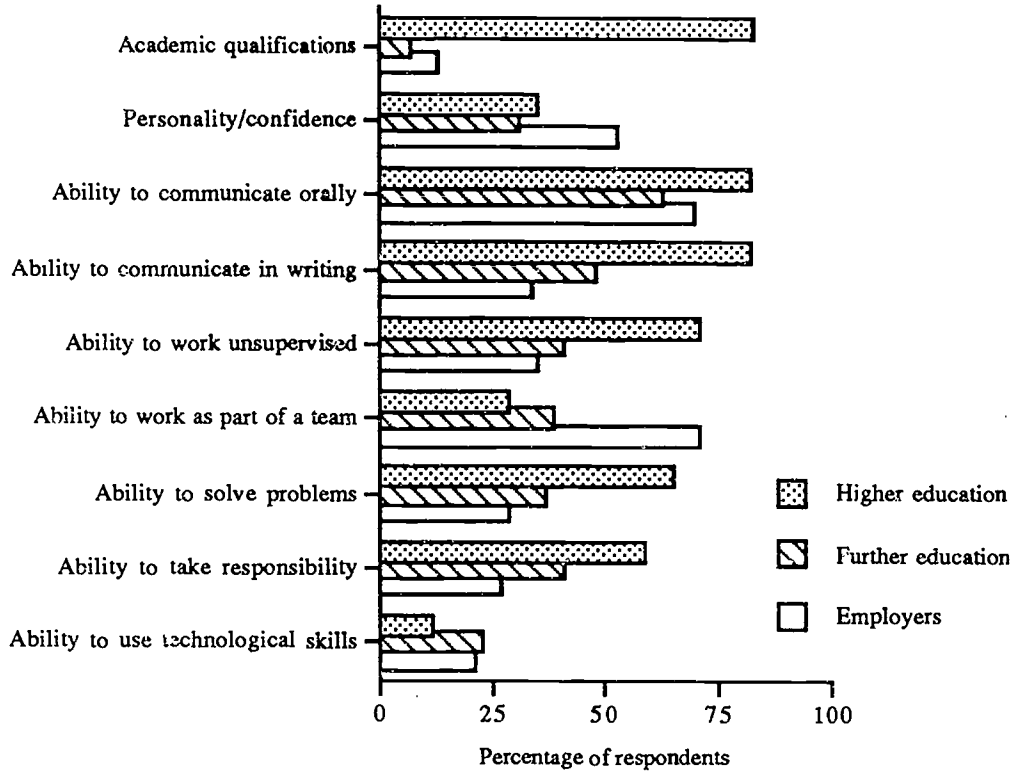
Finally, how about the young people themselves, do they see certain skills as more important than others? Are there differences between those who intend to go straight into a job and those who hope to go on to higher education?

This chapter sets out the evidence used to answer these questions and the main points of interest are summarised at the end.

The value of 'TVEI' skills

The development of certain personal and transferable skills is intended to prepare young people for life beyond school. It is, therefore, of interest to explore the extent to which these skills are valued by all those who have expectations of young people at the end of their school career. Employers were asked to indicate the importance of a range of qualities and skills when recruiting young people. Staff in FE colleges and HE institutions were asked to say how important the same range of qualities and skills were for young people seeking admission to college or university. Figure 3.1 compares the responses of the three groups.

Figure 3.1: Qualities and skills considered very important for school leavers entering employment or tertiary education



Staff in institutions of higher education attach great importance to a wide range of skills. In addition to academic qualifications these include the skills of communication, being able to solve problems and to work unsupervised. As a group they are least interested in young people's ability to use technological skills.

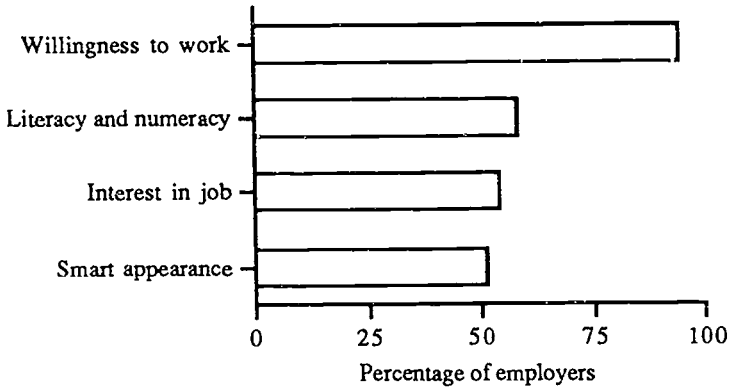
Staff in FE colleges were least interested in academic qualifications and the only skill which was considered very important by more than half of the respondents was oral communication. This emphasis on oral communication is reflected in the responses of employers and indeed it is the only skill which was considered very important by more than half of all groups. Slightly more staff in FE colleges than respondents from other groups considered the ability to use technological skills very important.

Differences between employers and educational institutions

It is interesting that as a group, almost three-quarters of employers believed that it was very important for young people to be able to work in a team despite the fact that this skill was not highly regarded by staff in the majority of FE and HE institutions. Conversely, fewer employers than other groups stressed the importance of solving problems, working unsupervised, or taking responsibility. This may be simply because young people have few opportunities for such skills at the early stages of their careers while these are skills which they will need to further their studies. There were differences among employers regarding the importance of certain of these skills and these differences are noted below.

Previous research into the qualities valued by employers (Sims, 1989*) has shown that they have other concerns. Figure 3.2 shows the proportion of employers who felt that these additional qualities were very important in school leavers.

Figure 3.2: Concerns specific to employers



Willingness to work stands out as a very important quality for almost all employers. When invited to comment further on valued qualities and skills, many employers referred to attitudes to work, for example:

> *Attitude first and foremost. Public sector employees come under constant scrutiny and this is the aspect that can make the biggest difference to an individual's performance.*
>
> *We can and do train people in terms of expertise but we can't train them in terms of attitude.*
>
> *Attitude and basic skills are required as the foundations to an employee with a future.*

When employers were also asked to select three skills or qualities from the expanded list (see figures 3.1 and 3.2) and to place them in order of most value to them as employers, these were:

- willingness to work;
- ability to work as part of a team;
- ability to communicate orally.

Differences among employers

A small number of significant differences was identified among those companies offering different types of positions to school leavers. Figure 2.7 in Chapter 2 shows that more than half of all employers offered training to young people. Those who offered a training position (either technology or management related) were more likely to state that the ability to use information technology was important. The ability to solve problems was identified as particularly important to those who offered training in technological or technical areas while the ability to work unsupervised was considered important to companies offering training in managerial or professional fields.

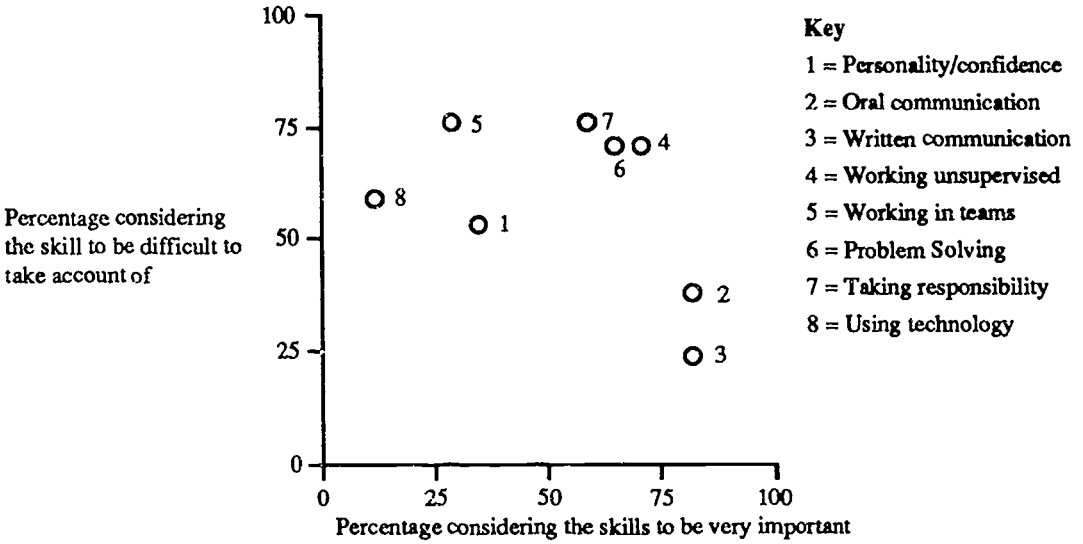
Small companies were more likely than large companies to emphasise the value of being able to work unsupervised and to take responsibility.

* Sims D (1989) Leaving TVEI and Starting Work. NFER

Admission procedures for HE and FE institutions

School liaison staff in HE and FE institutions have identified a number of skills which should be taken into consideration when selecting young people for admission and have also indicated how easy it is to take account of these skills in practice. Figure 3.3 and Figure 3.4 each combine two sets of data - the importance of 'TVEI' skills (taken from Fig 3.1) and the difficulty of taking account of these skills in the admissions procedures.

Figure 3.3: The difficulty of taking account of skills which are important for entrance to HE institutions



Oral and written communications were most frequently cited as very important by HE staff and relatively easy to assess. The majority thought that the ability to work unsupervised, to solve problems and to take responsibility were also very important but difficult to take account of in the admission procedures.

Figure 3.4: The difficulty of taking account of skills which are important for entrance to FE institutions

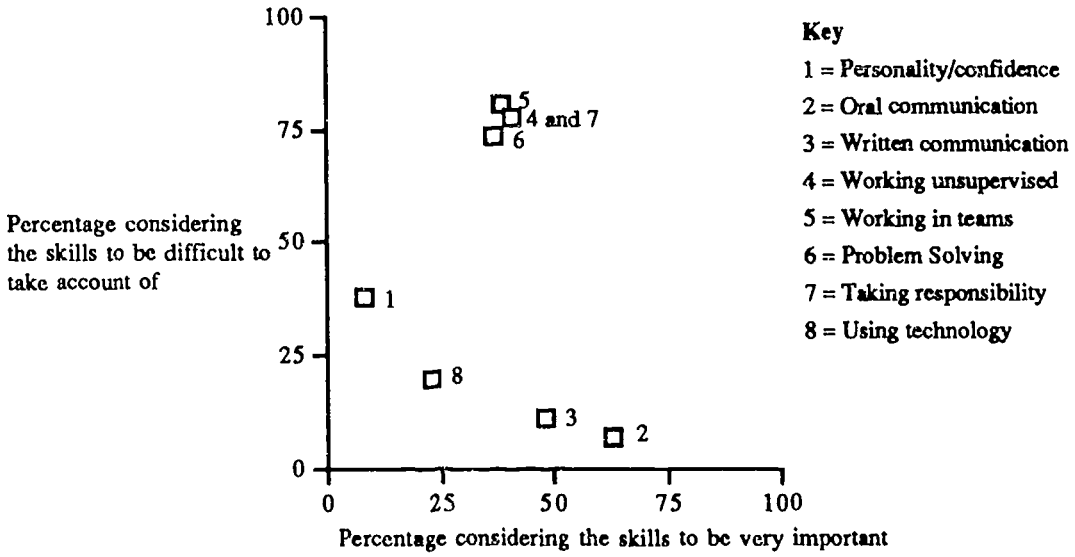
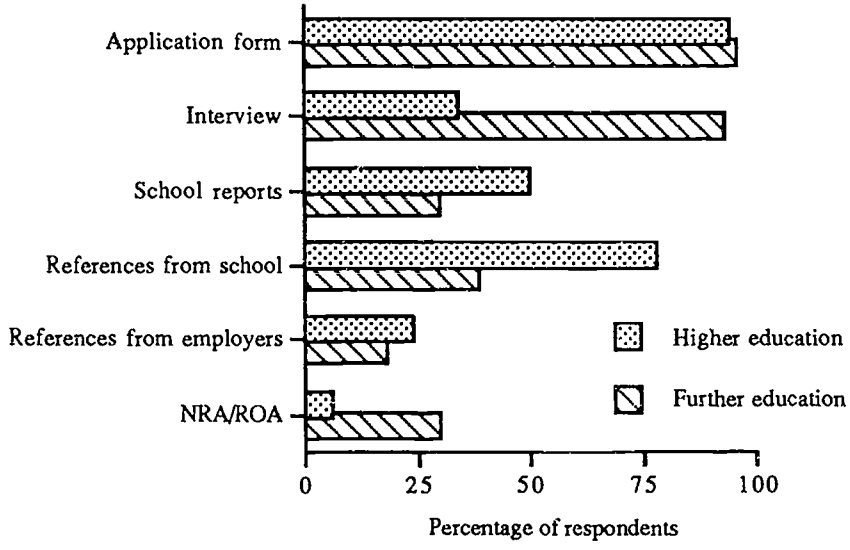


Figure 3.4 shows a cluster of skills identified by staff in FE colleges as difficult to take account of (working unsupervised, working in teams, taking responsibility and problem solving). However, none of these were considered to be very important by the majority of respondents. The only skill which was thought to be very important by most staff was oral communication and this was considered relatively easy to assess.

Overall, HE staff were more likely than FE staff to believe that there were skills which should be considered when selecting young people for admission but which were difficult to take account of. This difference might be explained by differences in the sources of information used when selecting applicants for places. Both HE institutions and FE colleges were asked to indicate which sources were used and Figure 3.5 shows the sources which were used frequently by each institution to evaluate the capabilities of applicants.

Figure 3.5: Sources of information used frequently



It is worth noting that, as yet, very small numbers of either group use students' NRA/ROA as a source of information. More details about NRA/ROA are given in a later chapter. The biggest differences between the two groups lie in the use of interviews (93% by FE and 28% by HE) and in the uptake of references from schools (39% by FE and 78% by HE).

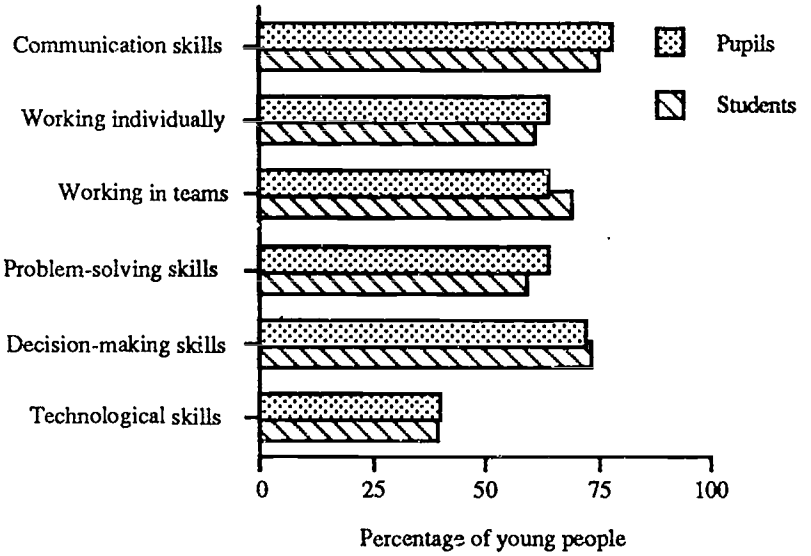
Some of the skills identified as very important for young people entering higher education (working unsupervised, solving problems) may not easily be gleaned from written references and application forms. The fact that FE colleges make more use of interviews than HE institutions could explain why fewer of their staff believe that it is difficult to take account of skills such as oral communication and the ability to use technology.

Young peoples' views

Young people in both schools and colleges were also asked to indicate the importance they attached to a range of skills. The responses from both groups were very similar and three-quarters of all young people thought that most of the

skills were very important. The exception was technological skills. Less than half of the sample thought that these were very important skills to learn. Figure 3.6 illustrates the responses.

Figure 3.6: Skills identified as very important by young people



The skills of communication, the ability to work unsupervised and to solve problems were identified, by more than two-thirds of HE respondents, as very important for pupils entering higher education (see Fig 3.1). When pupils with aspirations to go to university were selected from the national sample, they were significantly more likely to say that each of these skills was very important than those pupils who had no such aspirations. The greatest difference was in 'working on your own' where 70% of potential higher education students thought that this was very important compared with 58% of others.

■ Summary of points of interest

Valued skills

- Oral communication was the one skill which was considered very important by more than half of all further and higher education staff and employers.
- Willingness to work, the ability to communicate orally and the ability to work as part of a team are the three qualities or skills most highly valued by employers.
- The skills of communicating (both oral and written), being able to work individually and to solve problems were very important to staff in HE institutions.
- There was less consensus about the skills which were considered very important by staff in FE colleges although they, more than any other group, selected the ability to use technology.
- Most young people tended to believe that all skills were very important except the skill of using technology.

Sources of information for admission to higher and further education

- More than three-quarters of HE institutions rely heavily on application forms and references from schools for information on prospective students.
- More than three-quarters of FE colleges depend on application forms and interviews.

Differences between and within groups

- The ability to work in a team is highly valued by three-quarters of employers but less than half of staff in educational establishments.
- Employers who offer training in technical areas are more likely to value the ability to solve problems and use technology.
- Employers who offer training in managerial areas are more likely to value the ability to work individually and use technology.
- Small companies are more likely than large companies to value the ability to work individually and to take responsibility.
- Staff in HE institutions are more likely than staff in FE institutions to identify a number of skills which are important for students entering university but difficult to take account of.

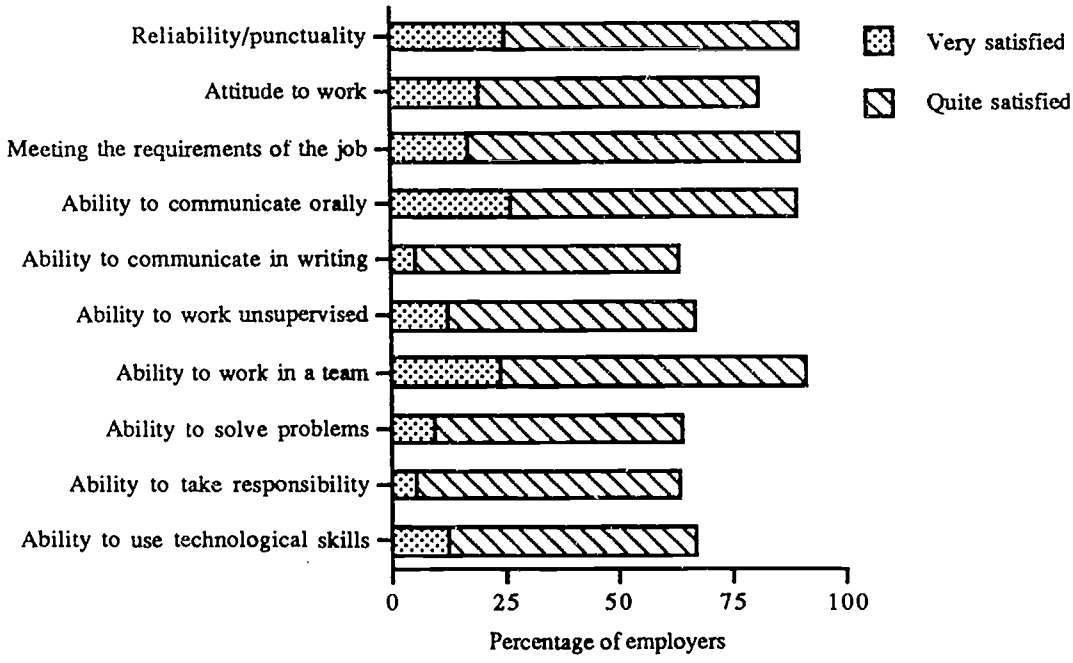
4 Changes in performance

TVEI and a number of other initiatives such as Standard Grade, SCOTVEC modules and Revised Highers have all been encouraging the development of a skills-based curriculum in schools. Are young people leaving school with these skills at their finger tips? In this chapter we consider the opinions of both employers and also those of staff in schools, FE colleges and HE institutions. Employers were asked to indicate how satisfied they were with the performance of recent recruits. Staff in educational establishments were asked to note any changes in performance over recent years and to suggest possible factors to explain these changes.

The employers' view

Employers were asked to think back over the last three years and to indicate how satisfied they were with the performance of school leavers. Figure 4.1 shows the degree of satisfaction.

Figure 4.1: Satisfaction with the performance of school leavers



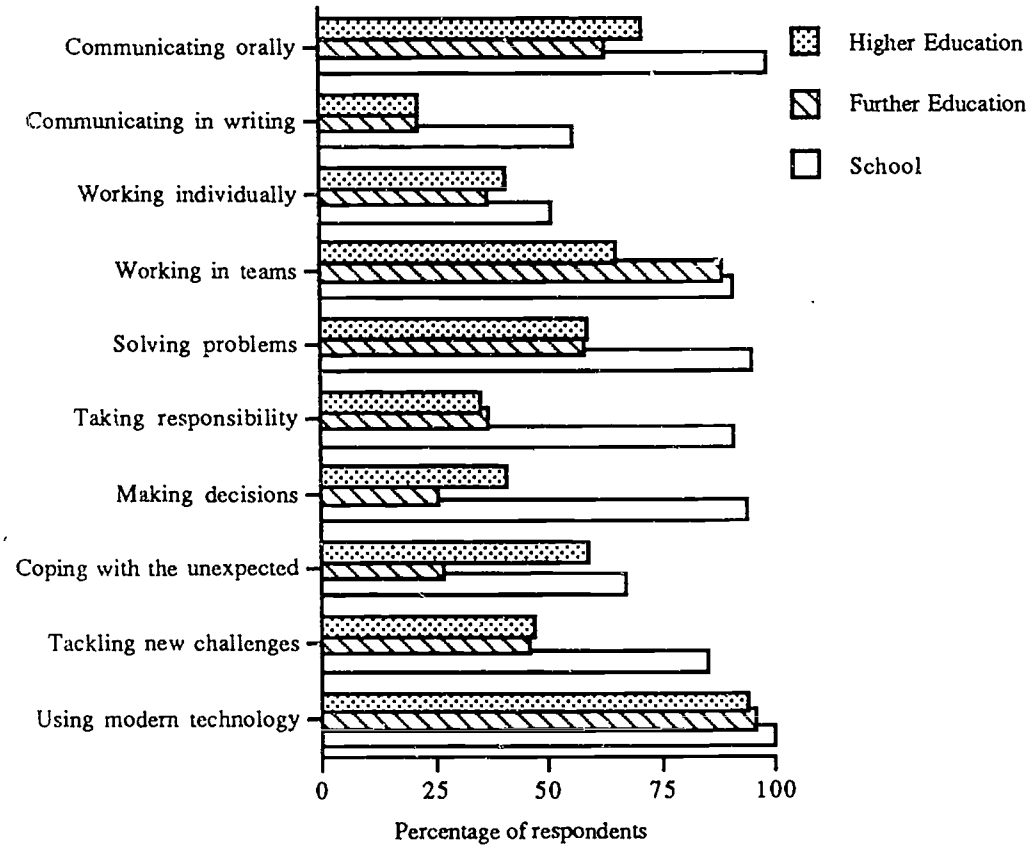
The first three characteristics on the list (reliability, attitude to work and meeting the requirements of the job) are employer-specific characteristics drawn from previous research (Sims, 1989). The great majority of all employers were at least quite satisfied with the performance of school leavers on reliability (90%),

meeting the requirements of the job (90%), attitude to work (81%), ability to work in a team (91%) and to communicate orally (89%). It is heartening to note that these last three were also identified by employers as the three most valued characteristics. More than half of all employers were satisfied with performance in each of the seven skills which are of particular interest to this evaluation (see Figure 3.6).

■ Performance of today's young people

Staff from schools, FE colleges and HE institutions were also asked to review student competences over the last few years and to indicate if they had noted any changes in performance. Figure 4.2 shows the number of respondents who were of the opinion that performance in these skills had improved.

Figure 4.2: Improvement in a range of competences



More than half of all respondents noted an improvement in problem solving, communicating orally, working in teams and using modern technology. The improvement was most marked in relation to the ability to use modern technology. Schools seemed to be particularly well satisfied as more than half of all schools thought there had been an improvement in each area.

For those skills which staff in most HE institutions had identified as very important (solving problems, oral communication, written communication, working unsupervised and taking responsibility), only the first two were deemed to have improved by the majority of respondents. Of the others, the ability to

communicate in writing had either increased (22%), no change was noticed (56%) or some considered it to have decreased (22%). A small percentage of respondents from FE colleges noted a decrease in writing skills, problem solving and the ability to work individually. These were the only decreases mentioned by any groups. The remainder of responses either indicated an increase or no change in student competences.

One possible explanation for the uniformly optimistic picture painted by schools could be that increases in competence on some of the skills, e.g. taking responsibility and making decisions, could be very recent and may not yet have had time to work through to HE and FE institutions. The fact that FE colleges do not appear to have noticed increases to the same extent as other groups and are more likely to identify decreases in competence could be a reflection of the increased student population. It may be that they are now catering for students who, in times of higher employment, would have gone straight into work. This is referred to by one respondent: 'expansion of further and higher education has resulted in those filling FE courses coming from a "lower ability" band'.

All groups were asked if they could identify reasons for perceived changes in student competence. Staff in HE institutions, as indicated in these quotes, referred most frequently to changes in the school curricula and to an increase in modern technology in schools:

> *Changes to school curriculum involving independent project work and communication skills.*
>
> *The increasing availability of computer equipment in schools and the pupils' hands on experience has resulted in a higher level of awareness of modern technology.*

Respondents from FE colleges also mentioned changes in the school curriculum (43%) and the increase in modern technology in schools (30%). In addition just over one-quarter of them referred to some aspect of TVEI as a contributory factor:

> *TVEI introducing technology, work experience and residential stays as enhancements to the curriculum.*
>
> *TVEI programme: development of in-school PSD e.g. work experience, enterprise and problem-solving days.*

A much longer list of factors was suggested by schools as contributing to changes in pupil competence. In order of frequency the most commonly mentioned factors were:

- the introduction of new assessment systems;
  - *increased opportunities due to nature and variety of courses e.g. Standard Grade; revised Higher and modules.*
- TVEI-related developments;
  - *TVEI technology enhancement, problem-solving inserts;*
    in-service training - both TVEI and Divisional;
    greater emphasis on PSD as a result of TVEI programme;
- new teaching and learning methodologies;
  - *more pupil-centred approach;*
    flexible learning approaches;
    active participative learning.

It is clear that many initiatives which have taken place in schools over the past ten years have been instrumental in encouraging the development of a range of

transferable and personal skills. These initiatives have included new examination courses, TVEI and a move towards more active learning. While separating the varying degrees of influence may not be possible, there is evidence to suggest that young peoples' competences have improved in most of the skills which have been given prominence by TVEI.

Taking responsiblity in schools

One of the most striking differences between schools and other educational establishments (illustrated in Fig 4.1) is in 'taking responsibility' and there is some additional information from schools about this skill. During discussions with the vignette schools, pupils and staff were asked about the ways in which pupils were given responsibility in the classroom. This information was incorporated into some of the questionnaires in the national survey. Figure 4.3 shows the extent to which teachers believe that young people are given responsibilities in these areas. Figure 4.4 shows the same information from pupils. Since it was believed that responses might differ with the different stages of schooling, pupils have been divided into two groups; S3/4 and S5/6.

Figure 4.3: Responsibilities which teachers claimed were given to pupils

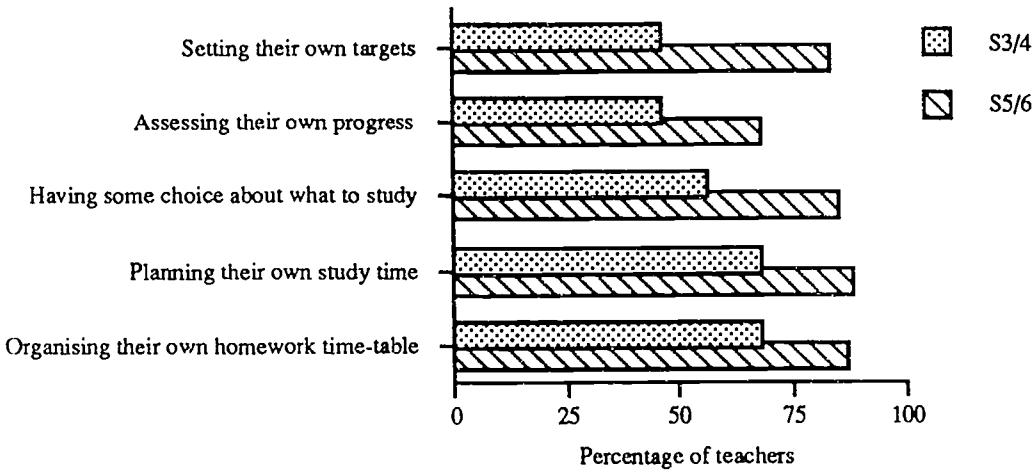
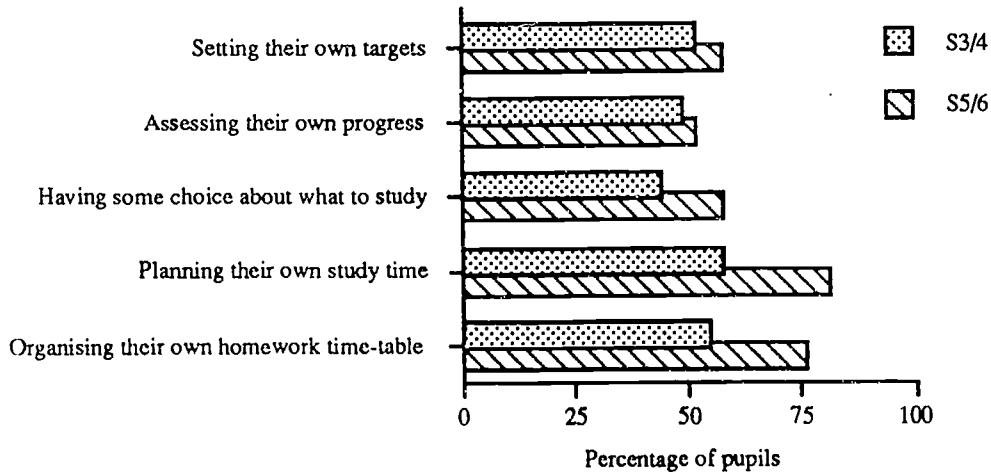


Figure 4.4: Responsibilities which pupils said that they were given



More teachers believed that a wider range of responsibilities was given to S5/6 pupils than to S3/4 pupils. The differences were least noticeable for pupil responses in relation to 'assessing their own progress', 'setting their own targets' and 'having some choice about what to study'. More S5/S6 pupils than younger pupils thought that they were given responsiblity for planning their own study time and organising their own homework time-table. There was a difference in perception between teachers and older pupils on some areas of responsibility. More than 80% of teachers thought they were giving pupils responsibility at S5/6 for setting their own targets and having some choice about what to study. This view was not reflected in the perceptions of older pupils.

The information gained from the various groups about the competences of young people has focused on pupils in school or recent school leavers. The findings show that the skills of communicating, working individually, working in teams, solving problems, taking responsibility and using technology are all valued by at least one group of respondents. There is widespread agreement that there has been an increase in the ability of young people to use these skills. The next chapter looks at the contribution of schools to this development.

Summary of points of interest

Performance of young people today

- Over 80% of employers were satisfied with the performance of today's school leavers in the ability to communicate orally and work in a team - these were skills which were highly valued by employers.
- Staff in the majority of schools considered there had been an increase in the ability of pupils in all skills in recent years.
- Staff in almost 100% of schools had noticed an increase in the ability to communicate orally and in the ability to use technology.
- Staff in more than 80% of schools thought that senior pupils were given a range of responsiblities for their own learning.
- More than three-quarters of senior pupils thought they were given responsibility for planning their own study time and organising their own homework time-table.
- There appeared to be some differences in perception between staff and senior pupils about responsibilities for setting targets, assessing progress and having some choice about what to study.
- More than half of respondents in all educational establishments noted an increase in the ability of young people to communicate orally, work in teams, solve problems and use modern technology.
- A decrease in the ability to communicate in writing was noted by 20% of HE and 30% of FE respondents.
- As a group, respondents from FE were less likely to consider that there had been improvements in skills than staff in schools or HE institutions.

Factors influencing change

- Changes in the school curriculum and assessment, various aspects of TVEI and changes in teaching methodologies were noted by one or more groups as factors influencing improvements in competence.

5 The contribution of schools to the development of skills

The perceptions of employers, teachers, FE lecturers, students and pupils have provided useful information on the importance of a range of skills to the various groups. In what ways does school contribute to the development of these skills? To what extent do young people in school and those who have recently left school find these skills easy? Are there particular subjects which encourage different skills? Are some teaching methods perceived to be more effective than others? Responses from teachers and students in both FE colleges and schools can offer some insight into these questions.

How easy do pupils and students find particular skills?

Teachers are experienced in distinguishing amongst the skills which were the focus of this study. However, it was felt that more clarification of each skill was needed for young people. A set of behaviours was devised for each skill which young people would recognise as tasks which they were asked to do in school. For example, 'working in a team' was replaced by five statements of behaviour which we hypothesised would match that skill:

- follow instructions in a group;
- take the lead in a group;
- listen to other people's ideas;
- work with others;
- reach agreement with others.

The total data set consisted of 33 statements intended to cover the skills of communication, working individually, working in teams, problem solving, taking responsiblity, enterprise and using modern technology. The data were analysed to check whether indeed these behaviours did group as skill 'factors'.

The results of the analysis indicated that four skills - oral communication, working individually, working in teams and using modern technology - could be isolated and matched to groups of statements. The other three skills of problem solving, taking responsibility and enterprise were indistinguishable from each other. A few skills correlated with groups other than that originally assumed. For example, 'taking the lead in a group' correlated with the skill of oral communication more closely than working in a team. It could be said that there are very plausible reasons for this as in order to take the lead in a group one must have powers of persuasion. These are likely to be expressed orally. Table 5.1 shows how the behaviours grouped into factors.

Table 5.1: Results of analysis to test how particular behaviours grouped into skills factors

Factor	Behaviours
Communicating orally	Talk to people you have never met before
	Take part in interviews
	Talk on the telephone
	Take the lead when you are working in a group
	Find the right words for what you want to say
Working individually	Find things out on your own
	Do things without help from other people
	Concentrate on your work when working alone
	Study on your own
	Do things on your own
	Decide on the best way to carry out a piece of work
	Assess how well you are doing in your work
	Set your own targets for future work
Working in teams	Work with other people
	Come to an agreement with people you work with
	Follow instructions when working in a group
	Listen to other peopie's ideas
Solving problems, taking responsibility and enterprise	Solve different kinds of problems
	Keep on working at problems that do not work out straight away
	Solve problems in ways you have not been shown
	Adapt ideas you already have to deal with new situations
	Decide what to do when it is not obvious what you should do
	Use sketches or diagrams to explain things
	Cope with things you don't expect
	Tackle something new
Using modern technology	Find information from computers for your work
	Know when computers would help you in your work
	Use a word processor
	Work with computers
	Use other modern pieces of equipment

FE students and school pupils gave very similar responses. All but two of the behaviours were found to be at least 'quite easy' by the majority of young people. The two exceptions were writing in a foreign language and talking in a foreign language.

It is possible to obtain 'average' scores for each of the skill factors in Table 5.1, showing the proportion of young people who found them 'very easy'. Average scores are given in Table 5.2. It can be seen that the responses of pupils and

students were very similar, with a marginally smaller proportion of students feeling comfortable with most of the skills. For both groups the order of difficulty was the same; the largest number found teamwork skills easy, followed by technological skills, working individually and communicating orally. For both groups the skills of problem solving, taking responsibility and enterprise were the most difficult.

Table 5.2: Average scores showing the proportion of pupils and students who found skills very easy

	Pupils	FE students
Communicating orally	26%	24%
Working individually	34%	30%
Working in teams	45%	44%
Solving problems, taking responsibility and enterprise	17%	16%
Using modern technology	35%	35%

There were a large number of statistical differences between genders in the skills with which pupils felt at ease. The trend was for girls to feel more at ease with the skills of communicating, working in teams and some aspects of working individually. Boys felt more at ease with problem solving and enterprise and with using technology. There were far fewer significant gender differences among FE students. Where there were differences they matched the same skills trends as for pupils. Table 5.3 identifies the particular behaviours which male and female pupils found easier.

Table 5.3: Gender differences in how at ease pupils felt with a range of behaviours

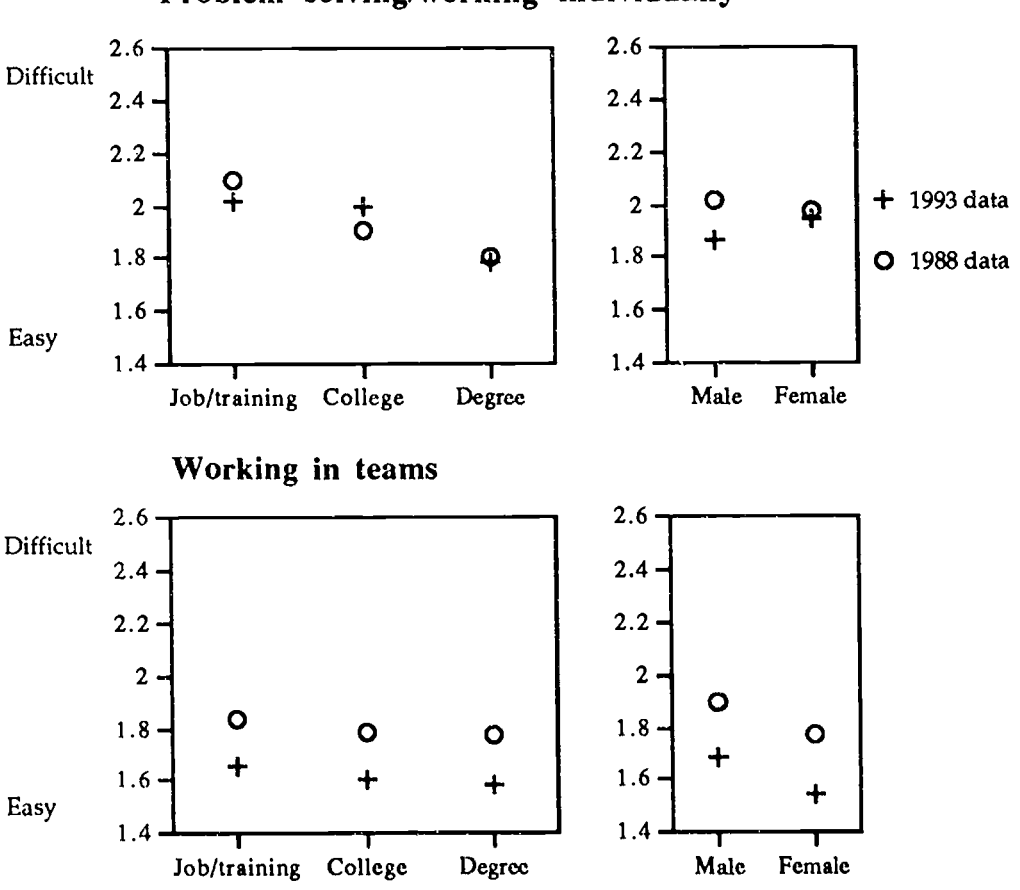
Girls felt more at ease when asked to:	Boys felt more at ease when asked to:
talk on the telephone	persevere at problems
concentrate on work while working alone	solve problems in ways not taught
work on their own at homework	solve different kinds of problems
follow instructions from someone in a group	decide what to do when it is not obvious
listen to other people's ideas	adapt ideas to deal with new situations
work with other people	cope with the unexpected
come to an agreement with other people	use sketches/diagrams to explain things
talk or write in a foreign language	get information from computers
write up a project	know when computers would help
use a word processor	work with computers
	use other modern equipment

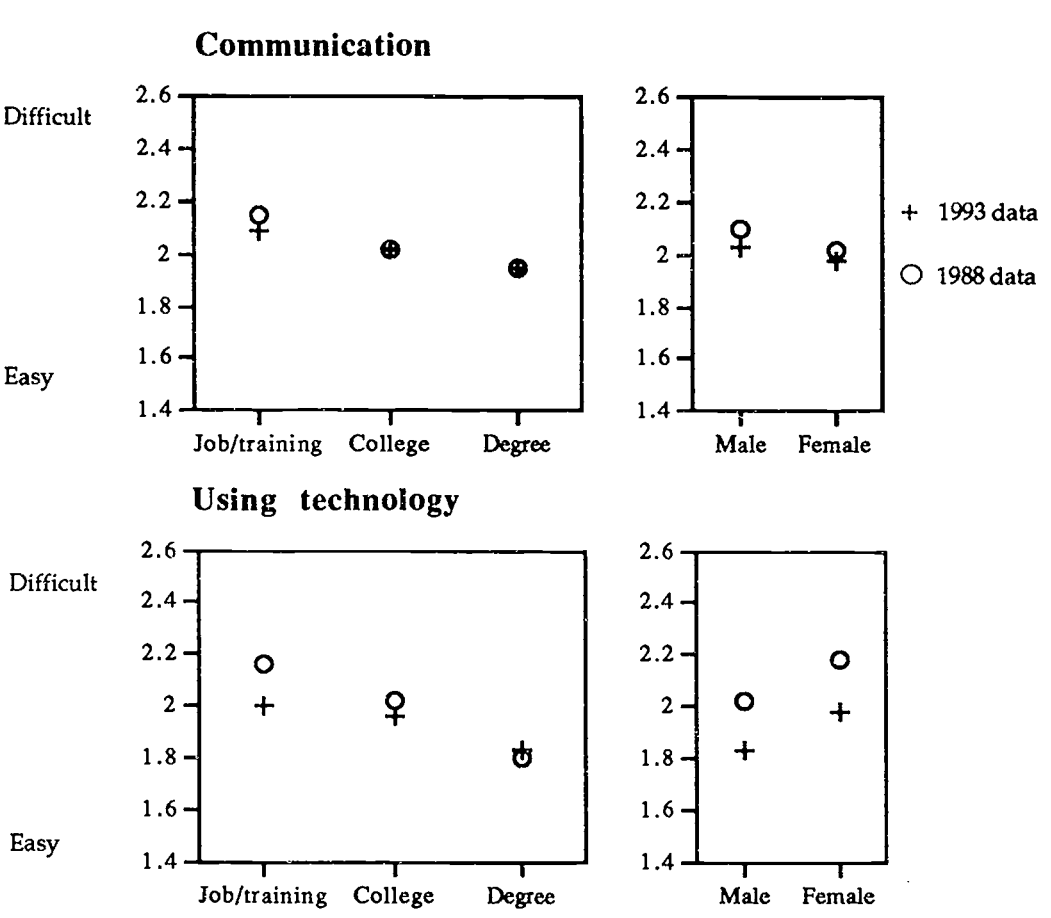
Other significant differences were noted among pupils with different aspirations: to go to university or college to get a degree, to go to college for other qualifications, to go straight into a job or to go on a government training programme. Pupils who were aiming for university found the skills easiest, while pupils aiming for a job found them most difficult. Pupils intending to go to college fell between these two groups. The behaviours where there was no difference among the groups were related to the use of technology and to certain aspects of working in teams.

Comparisons with pupils of five years ago

Between 1987 and 1989, as part of the national monitoring of the TVEI pilot projects, information was collected from a large sample of over 30,000 Scottish school pupils on various aspects of TVEI. One part of the study gathered information on how comfortable pupils felt with a range of behaviours. During the present evaluation, we included many of these behaviours in our own questionnaires. We are, therefore, able to make direct comparisons between S4 pupils today and those of five years ago on four skills which have continuously been targeted by TVEI; oral communication, working in teams, problem solving and using modern technology. Pupils gave themselves a rating of 1 to 4 where 1 meant very easy and 4 meant very difficult. In the 1988 data it proved impossible to separate problem solving and working individually into separate factors so these are shown on a single graph. Figure 5.1 shows the comparisons between the findings. They are arranged by pupils' aspirations and by gender.

Figure 5.1: Comparisons between 1988 and 1993 on pupils' 'comfort' with 'TVEI' skills





The general pattern of 'comfort' by pupil aspiration remains constant. Pupils who intend to go straight into a job feel these skills to be more difficult than pupils who intend to go to university. However, there is evidence for a steady improvement over the whole ability range for both boys and girls. The differences between boys and girls have also remained constant except in problem solving where boys have improved more than girls and have overtaken them in terms of feeling comfortable. Working in teams shows the biggest overall increase in comfort, while oral communication shows the least.

Subject differences

FE students, school pupils and TVEI school co-ordinators were asked to identify which subjects they thought were useful in helping to develop the skills associated with communicating orally, working individually, working in teams, solving problems, self-assessment and using technology. Responses from the young people were to some extent determined by the proportions studying different subjects (e.g. English and mathematics were commonly cited, classical studies rarely). However, the pupils did identify different subjects for different skills. FE students were asked to think back to their time at school in replying to this question so theirs is a retrospective view.

The three most commonly mentioned subjects for each group of young people and their teachers are listed in Table 5.4. There was considerable consensus among senior staff on the subjects which encouraged the development of solving problems, communicating orally and using technology. A wider range of subjects

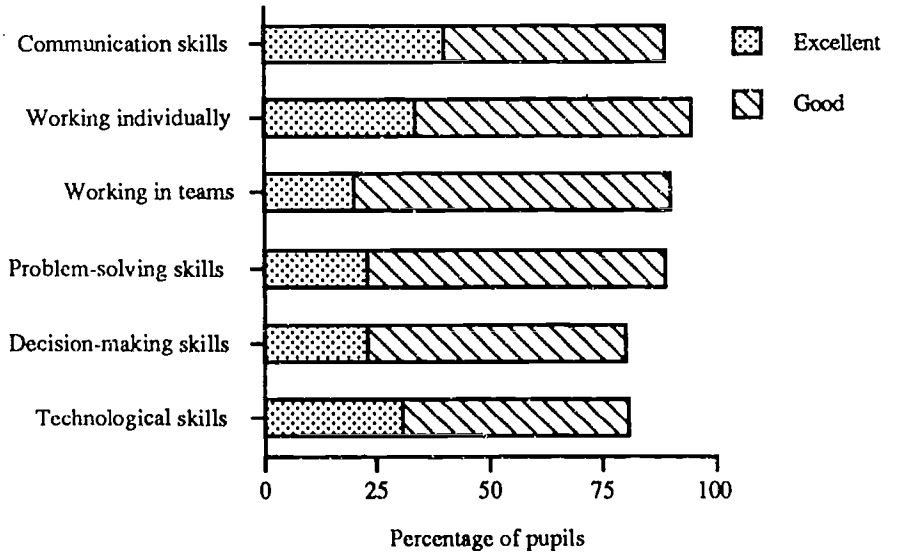
was identified for working individually and in teams and taking responsibility. The three most commonly mentioned subjects are given separately for S3/S4 pupils and S5/S6 pupils.

Table 5.4: Subjects perceived by respondents to help with the development of skills

		Pupil responses		Teacher responses	
	FE students	S3/S4 pupils	S5/S6 pupils	S3/S4 pupils	S5/S6 pupils
Communicate orally	English work exp PSE	English PSE modern lang	English work exp PSE	English modern lang PSE	English modern lang PSE
Work individually	English maths geography	English maths history	English maths geography	art & design maths business	art & design maths computing
Work in teams	English PE maths	English PSE PE	English PE work exp	PE PSE soc/voc	PE PSE drama
Solve problems	maths English physics	maths physics chemistry	maths physics chemistry	maths science physics	maths physics science
Self-assessment (take responsibility)	English work exp. PSE	PSE English maths	English PSE maths	PSE work exp. soc/voc	PSE work exp. English
Use technology	computing business tech. studies	computing business physics	computing business physics	computing business tech. studies	computing business tech. studies

As well as being asked to identify individual subjects which helped develop the 'TVEI' skills, pupils were also asked to indicate how well school had helped them to develop a range of skills. Figure 5.2 illustrates the responses.

Figure 5.2: The success of schools in developing 'TVEI' skills



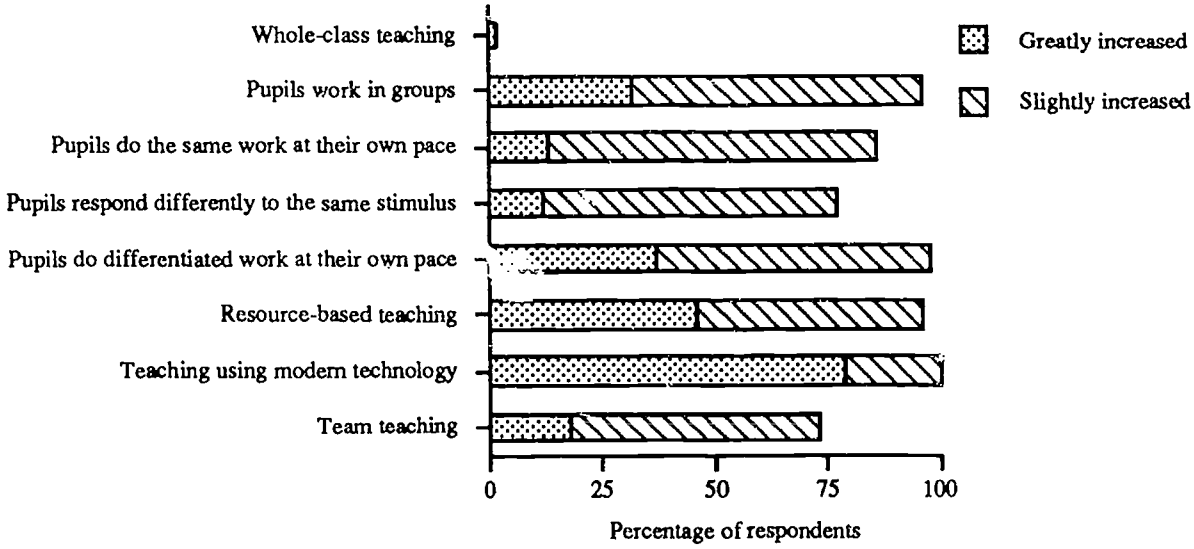
Over 80% of pupils said that their school was good or excellent at helping them to learn all these skills. Although the choice of subjects selected as being helpful for the development of skills (Table 5.4) may seem rather limited and perhaps based on stereotypical views of, for example, technology, the great majority of pupils believe that they have the opportunities to learn all the skills in some part of their curriculum.

Some gender differences were identified. Girls were more positive about the way in which school helped them to learn to work in teams, to communicate and to make decisions. Boys were more likely to feel that school was good at helping them to learn to solve problems and to use modern technology. Note that these gender differences reflect the same pattern of skill separation as identified in pupils' perceptions of how comfortable they felt with a range of behaviours (Table 5.3).

■ Teaching methods

Increasingly over the years, TVEI in its Focus Statement and in its contribution to staff development has stressed the need for teaching methods which will help pupils to be 'effective, enterprising and capable at work'. Staff in both schools and FE colleges were asked to indicate whether a range of teaching methods had changed in recent years. Figure 5.3 shows where the increases occur in schools.

Figure 5.3: Changes in teaching in schools

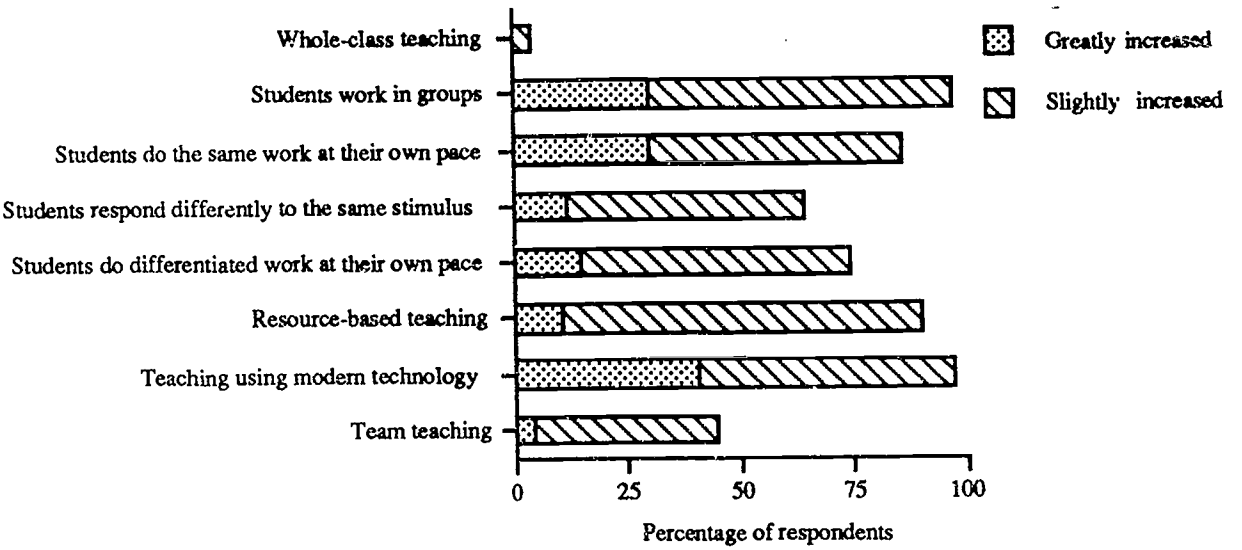


The majority of TVEI co-ordinators in schools felt that all methods listed had increased and most of the remainder thought that there was no change. The exception was that of whole-class teaching which 93% of respondents thought had declined in recent years. Asking about changes begs the question of the base line from which change is being measured and information from pupils which is discussed below suggests that some base lines must have been very high (whole-class teaching) while others were very low (differentiated work).

The pattern of responses from staff at FE colleges was very similar (see Figure 5.4) although the situation suggests that more change is taking place in schools than

in colleges. The greatly increased use of technology in both sectors is striking.

Figure 5.4: Changes in teaching in FE colleges



TVEI school co-ordinators were also asked about factors which had promoted changes in teaching methods. The cause which was selected by the largest group of respondents was TVEI (38%):

> *As a TVEI pilot school we were committed to learning and teaching which was pupil-centred - consequently for 7 years we have been pursuing differentiation, flexible learning, supported self study, profiling and pupil self evaluation. We have focused our resources, staff development etc. to deliver the above.*

This was closely followed by new examination and assessment arrangements, for example, Standard Grade, Revised Higher and SCOTVEC modules (31%):

> *Methodological changes required by Standard Grade courses and in 5-14 programme.*

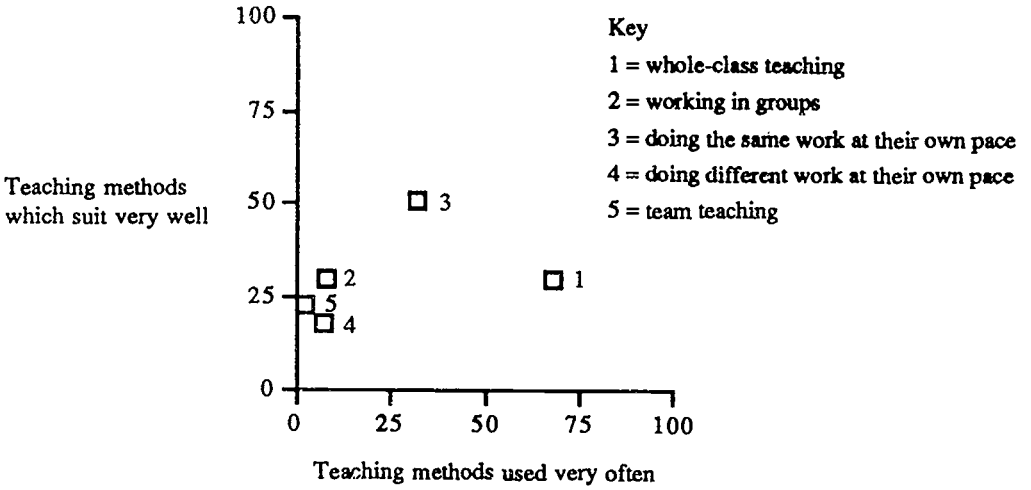
Staff development and the introduction of modern technology were both mentioned by 20% of senior staff.

When students and pupils were asked about methods which were commonly used in classrooms, more respondents claimed that whole-class teaching was used than any other method. The perceived high frequency of whole-class teaching does not, of course, contradict the view expressed by teachers that such teaching has declined. It simply suggests that the base line of whole-class teaching was very high. Working in groups, doing different work at their own pace and team teaching were identified as being very often used by less than 10% of pupils.

Pupils were also asked to say which teaching methods helped them to learn. The most noticeable difference between methods which were used most often and methods which were considered very helpful was in whole-class teaching. Less than one-third of both groups of young people found this method very helpful. The method favoured by the largest number of young people was that which allowed them to do the same work as others in the class but at their own pace. Doing different work at their own pace was found to be very helpful by only 18% of pupils. However, since three-quarters of them stated that this method was

rarely or never used this low figure is just as likely to be caused by lack of knowledge as any other reason. These responses may change in the future given that almost all teachers claimed that differentiated work was increasing. Figure 5.5 shows which methods were reported by pupils to be used very often in the classroom and which methods were very good at helping them to learn.

Fig 5.5: Pupils' views of teaching methods used and those which help them learn (Expressed as a percentage)



A few gender differences were noted among pupils' views on teaching methods used in the classroom. Girls were more likely to say that teachers used whole-class teaching, group work and the same work at their own pace while boys said that teachers more often used differentiated work or team teaching. Some of this difference in perception may, in part, be explained by gender differences in how girls and boys prefer to learn. More girls than boys said that working in groups on shared tasks and doing the same work but at their own pace were very helpful. There appeared to be closer match between teaching methods used and preferred methods of learning for girls than for boys.

A match between teaching methods used and teaching methods found to be helpful was also noted in relation to S3/S4 pupils. They were more likely then S5/S6 pupils to say that they were taught in ways other than whole-class teaching and more likely to say that they found these other ways helpful.

Whole-school approaches

At a more general level, TVEI school co-ordinators were asked to identify any whole-school structures or practices which had been helpful in encouraging the development of personal and transferable skills. The range of suggestions was drawn from interviews with staff from the vignette schools. More than half of all respondents believed that staff development had been instrumental in such development. School audits (50%), policies (46%) and development plans (40%) were also mentioned.

Work experience programmes and the introduction of Records of Achievements (NRA/ROA) were introduced as additional to our suggested list in response to

the questions on whole-school structures which helped with the development of 'TVEI' skills. As both of these initiatives have played a dominant role in the history of TVEI, the next chapter considers their influence on young people in some detail. Also included in Chapter 6 are some of the more explicit links between staff in schools and TVEI. These include the contacts between school and industry.

Summary of points of interest

Pupils' ease with skills

- The largest numbers of both school pupils and students found teamwork skills and using technology very easy.
- For both groups the skills of problem solving, taking responsibility and enterprise were the most difficult.
- Individual behaviours which most pupils in school found very easy were:

  talking on the telephone (communicating);
  concentrating when working alone (working individually);
  working on their own at homework (working individually);
  doing things on their own (working individually);
  listening to other people's ideas (working in teams);
  working with other people (working in teams).
- Young people were less comfortable with:

  talking and writing in a foreign language;
  persevering at problems that do not work out straight away;
  solving problems in ways that the teacher has not shown.
- There were clear gender differences. Girls were more likely to be at ease in communicating, working in teams, some examples of working individually and word processing. Boys were more likely to be at ease using modern technology (except word processing) and most of the problem solving and enterprise behaviours.
- There were also differences among pupils with different aspirations. For most of the skills, those who were intending to go to university found the skills easiest, those who were intending to go straight into a job found them most difficult. There was no difference among the groups on skills related to the use of modern technology.

Perceptions of today's pupils compared with those of five years ago

- There have been improvements over the whole ability range (as measured by pupil aspiration) in all skills.
- The greatest improvement is in teamwork.
- The least improvement is in oral communication.
- The general patterns of difficulty had changed little over five years.

Subjects which helped develop skills

- There was a considerable degree of consensus on subjects which helped to develop skills. The following were highly rated by all groups:

communicating orally	–	English, PSE;
working individually	–	mathematics;
working in teams	–	PE;
problem solving	–	mathematics, physics/electronics;
taking responsibility	–	PSE;
using technology	–	computing, business studies/OIS.

Teaching methods

- Staff in three-quarters of schools thought that the use of all suggested methods of teaching (except whole-class teaching) had increased.
- The pattern of changes in teaching methods in FE colleges and school is similar although more change seems to be taking place in schools.
- Whole-class teaching is decreasing.
- The greatest number of respondents identified an increase in teaching using modern technology.
- Most young people identified whole-class teaching as being very common. About one-third of pupils claimed that they very often worked at their own pace on the same work as others in the class. Less than 10% of pupils claimed that other methods of teaching were commonly used.
- Less than one-third of young people think that whole-class teaching suits them very well. Working at their own pace on the same work as others is favoured by the largest single group of young people.
- Based on their own perceptions, teaching methods which help learning appeared to be better matched for girls than for boys and better matched for pupils at S3/S4 than at S5/S6.

Factors influencing changes in teaching methods

- Changes in teaching methods have been brought about by the influences of TVEI and new examination and assessment arrangements.
- Staff development was identified by more than half of senior staff as a whole-school approach which encouraged the development of 'TVEI' skills.

6 A focus on TVEI-related activities

Two strategies which have been closely associated with TVEI and which are particularly relevant to this evaluation are the introduction of work experience for young people in schools and the development of NRA/ROA. In this chapter we examine the perceptions of different groups about these initiatives. Work experience has the potential for not only 'providing young people with direct experience of the economy and the world of work' but offering them the opportunity to practise personal and transferable skills which have been developed in school. The NRA/ROA provides the means for young people to make known to prospective employers and admissions staff in further and higher education their achievements in all areas including references to skills which are not normally reflected in the usual reporting and certification procedures.

Work experience and NRA/ROA also examples of two ways in which staff in schools and colleges may have been involved with TVEI and they provide direct links between education and industry. The range of ways in which TVEI has had an impact on staff and the extent to which education and industry are in contact with each other are summarised.

Provision of work experience by employers

A total of 92% of the employers who responded had provided work experience for pupils in school and more than half of them selected ' is link with schools as the one they valued most highly:

> *I provide local work experience to a number of local schools. This assists school pupils and ourselves as employers to assess and consider some of the qualities which are undoubtedly present in each pupil.*

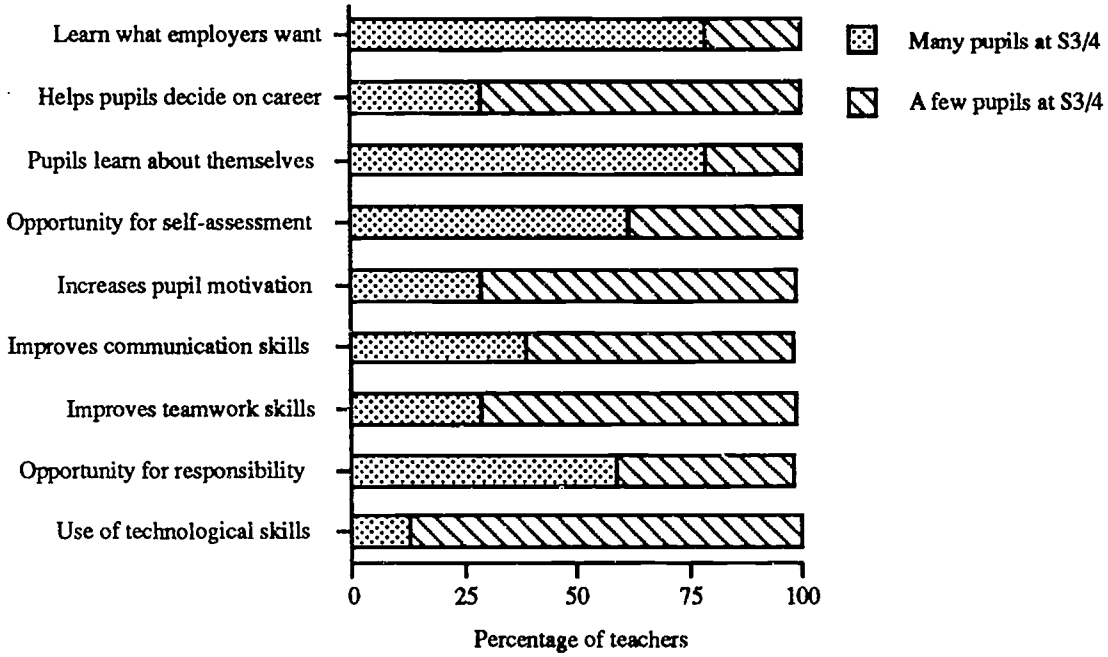
More than three-quarters of employers agreed that school leavers with work experience were better prepared for employment than those without.

Views from school

TVEI school co-ordinators were asked to give their opinions on the extent to which pupils were influenced by their work experience in a number of ways.

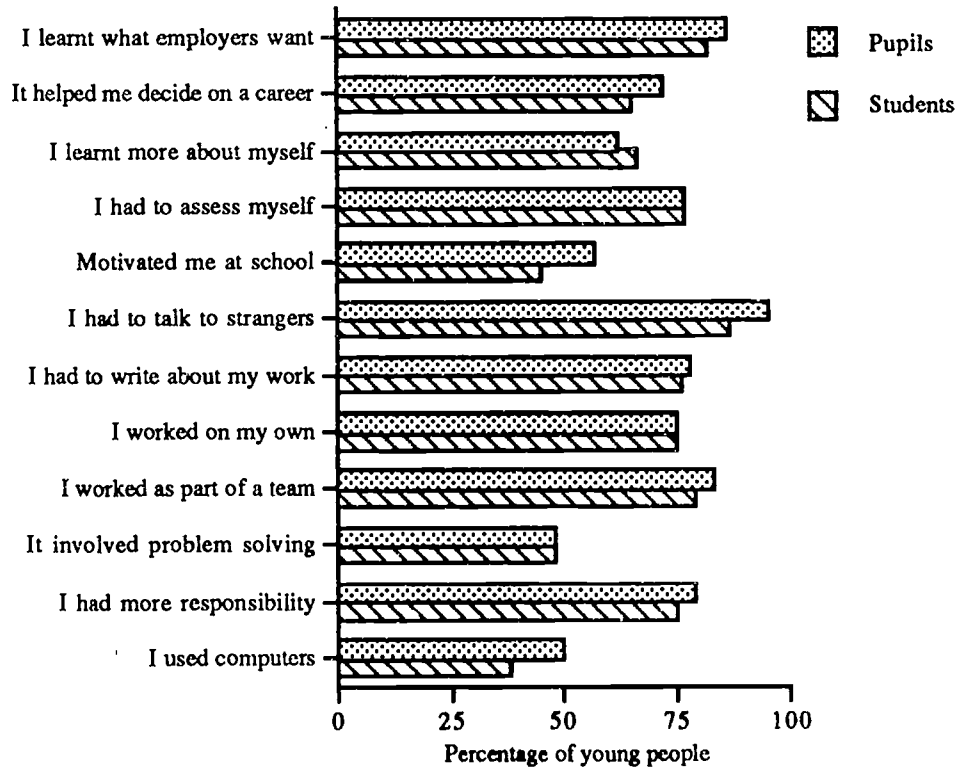
Almost all co-ordinators agreed that at least a few S3/S4 pupils were influenced in each of the ways listed in Figure 6.1. More than half felt that work experience gave many pupils an idea of what employers want, provided the opportunity for pupils to learn about themselves, to assess themselves and to take more responsibility than at school. When co-ordinators were asked about the influence on S5/S6 pupils the only difference was in relation to helping young people to decide on the kind of employment they wanted. More teachers thought this was important for pupils at S5/S6 (48%) than at S3/S4 (29%). The remainder of the findings were almost identical.

Figure 6.1: Ways in which many S3/S4 pupils benefit from work experience (staff view)



Just over half of the pupils in the school sample and 81% of the FE students had been on work experience from school. Both groups were asked to agree or disagree with a list of statements about work experience. Figure 6.2 shows that the responses of pupils and students were very similar. It should be noted that it is unlikely that S3 pupils would have been on work experience at the time of the survey.

Figure 6.2: Young people who agreed with statements about work experience



More than three-quarters agreed that work experience had:

- given them an idea of what employers want;
- given them the opportunity to work as part of a team;
- made them think about how well they had done;
- given them the opportunity to improve their communication skills by writing about what they were doing and by talking to people they didn't know well;
- given them the chance to see how well they could work on their own;
- given them more responsibility than usual.

The majority also felt that work experience had:

- helped them decide on what sort of employment they wanted;
- helped them learn more about themselves.

Differences of perception

There were some gender differences in pupils' perceptions of work experience. Girls were on the whole more positive than boys and were more likely to agree with most of the statements about work experience. The only statement with which boys were more likely to agree were that work experience had:

- involved problem solving;
- given them the chance to work on computers.

There were also differences which were dependent on pupils' aspirations. Pupils intending to get a job or training were most likely to agree that work experience offered them the opportunity to solve problems. Those who were hoping to get a degree were most likely to agree that work experience had given them the chance to use computers and least likely to agree that it had:

- helped them to decide what sort of job they would like;
- given them the chance to work as part of a team;
- given them more responsibility than usual.

Records of Achievement (NRA/ROA)

Many schools are currently developing either the National Record of Achievement (NRA) or some form of local Record of Achievement (ROA). For the purposes of simplicity these are grouped together under the abbreviation NRA/ROA.

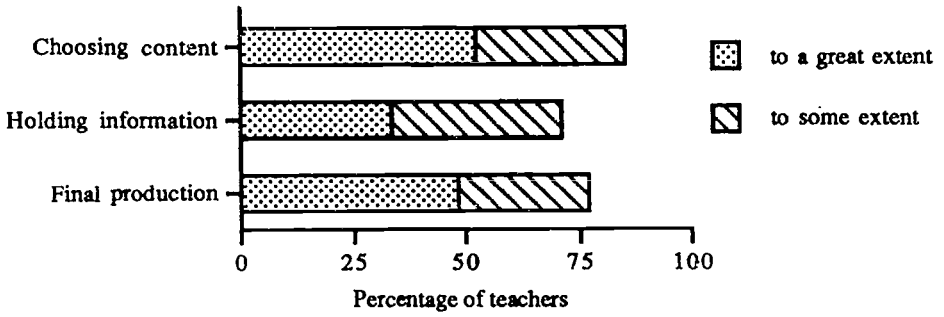
By the year 1997 all the school leavers in our sample of schools will have a NRA/ROA. The perceptions relating to these documents are, therefore, based on early experiences. Table 6.1 is taken from the responses of TVEI school co-ordinators who were asked to provide the percentages of pupils with a NRA/ROA in the 1992/93 session. This reflects the information obtained from pupils where 40% indicated that they had a NRA/ROA.

Table 6.1: Percentage of school leavers with a NRA/ROA (1992/1993)

Year group	S4	S5	S6
Pupils (%)	47	40	37

NRA/ROA is designed to summarise the achievements and experiences of the young person to whom it belongs. The process by which the NRA/ROA is produced is intended to be very much a matter for negotiation between teachers and pupils. Schools were asked to indicate the extent to which pupils were involved in different stages of this process. Figure 6.3 shows the results.

Figure 6.3: Responsibility of pupils for NRA/ROA (staff view)



The majority of schools allow pupils at least some choice in the content of their NRA/ROA. In a minority of schools (about 15%) pupils were given little or no choice. These figures were largely corroborated by pupils. Nearly two-thirds of pupils said that all or most of the contents of their NRA/ROA was their choice and only 12% believed that they had very little choice. The philosophy of the NRA/ROA is that the content should be the pupils' choice. The fact that a few schools, on the admission of their own school co-ordinators, are not giving much choice to pupils could be due to a phasing in of choice as the NRA/ROA becomes more widely used. In considering whether pupils should be given the responsibility for holding the information for their final records schools have to strike a balance between trusting pupils to store the information in a safe place and ensuring that it is available when needed. From interviews with some of the vignette schools we are aware that even where schools would like to give the responsibility for the final production to pupils, this is not always possible because of a lack of access to suitable hardware.

We were interested to find out how many employers and admission officers at FE and HE institutions had actually seen a NRA/ROA. Table 6.2 shows that less than half of employers and school liaison staff in HE institutions but almost all school liaison staff in FE colleges had seen a NRA/ROA.

Table 6.2: Percentage of respondents who had seen a NRA/ROA

	Yes	No	Not Sure
Employers	40	54	6
HE institutions	47	41	12
FE institutions	96	4	0

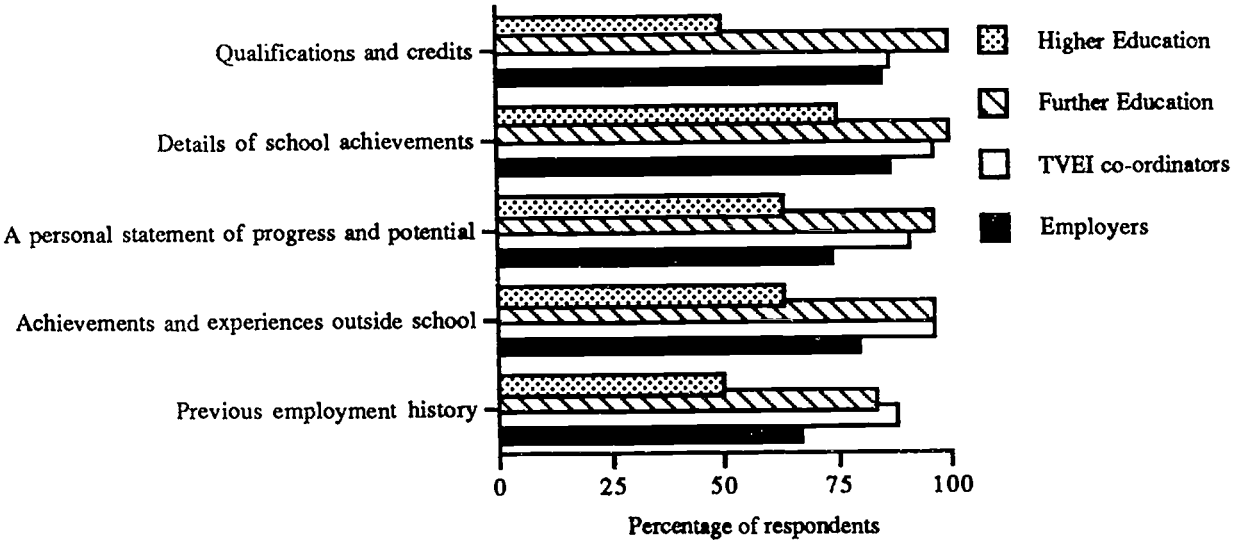
Employers and school liaison staff in colleges and higher institutions who had seen such documents, were asked if they had been involved in commenting on either the content or the format of NRA/ROA. One-quarter of employers and

nearly one-half of FE colleges had been involved. No HE institutions were aware of having made any comments. Schools were also asked about inviting employers to comment on the NRA/ROA used by their pupils and 20% of schools said that they had approached employers for this purpose.

Staff in HE and FE institutions were also asked if students added to their NRA/ROA while continuing their education. No HE institutions but 64% of FE institutions claimed that they did. If the NRA/ROA is to be of value to young people when preparing for or attending interviews with employers, its value will be considerably diminished unless progress throughout education, training and employment continues to be recorded.

Finally, senior staff in schools and those employers and school liaison staff who had seen a NRA/ROA were asked to comment on the usefulness of the document for a number of purposes. Figure 6.4 illustrates the responses.

Figure 6.4: Percentage of different groups who felt the NRA/ROA to be useful



School liaison staff in HE institutions are consistently less likely to find the various sections of the NRA/ROA useful than other groups. Earlier in Chapter 3 information was provided on the sources used by HE institutions when selecting applicants for courses. NRA/ROA were used by only very small numbers. However, some of the characteristics which they identified as being important but difficult to take account of, such as taking responsibility and working unsupervised could well be included in a NRA/ROA in the section dealing with 'other achievements and experiences'. Now that references to the NRA/ROA are made on the standard application forms for HE institutions, the document may become increasingly useful in this regard.

Staff in more than three-quarters of FE colleges and schools believe the NRA/ROA to be useful in providing information in the areas it covers. There would seem to be considerable scope for NRA/ROA to play a larger role in helping FE colleges to gather information about potential entrants. At present, less than half of the colleges make use of the NRA/ROA as a source of information (see Chapter 3) and yet 96% of school liaison staff know of its existence and 64% of colleges encourage students to add to the document during their time in FE.

Over three-quarters of employers found the document useful for information on:

- qualifications and credits;
- details of school achievement;
- achievements and experiences outside school.

Slightly fewer, but still more than half, thought the NRA/ROA was useful for its personal statement of progress and potential and previous employment history. Employers were the only group who included references to the NRA/ROA in their comments:

> *[NRA/ROAs] are excellent documents if used and prepared properly but pupils need to be encouraged to include all details within the document*

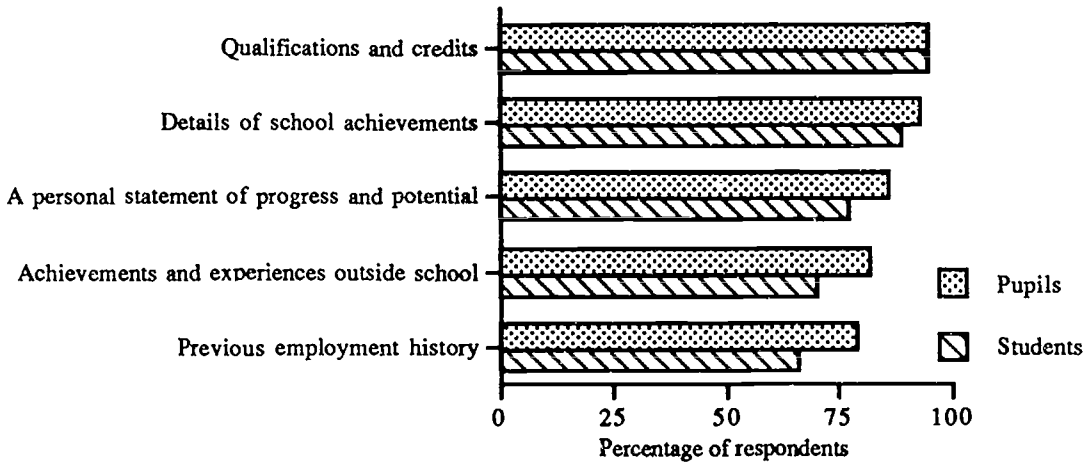
and

> *school leavers have never presented me with a NRA/ROA at interview.*

The views of young people

Pupils in school and students in college were also asked to say how useful they thought the NRA/ROA was for providing employers and others with information about themselves. More than three-quarters of pupils and more than two-thirds of students thought that the document was at least 'quite useful' for all the purposes mentioned. Figure 6.5 illustrates the numbers of each group of young people who thought the document was useful.

Figure 6.5: Percentage of pupils and FE students who felt the NRA/ROA to be useful



The pattern of findings is the same for both groups of young people. The greatest number believe that a NRA/ROA is useful for information on qualifications and credits and the lowest number (by a small margin) believe that it is useful for providing evidence of previous employment history. Some potentially useful information is revealed if we compare those purposes which are considered to be very important by different groups. More than half of the school liaison staff in FE colleges believe that the NRA/ROA is very useful for providing evidence of achievements and experiences outside school. However, this purpose is selected by the lowest number of pupils as very important. Those pupils who are thinking of going to college may find this a valuable piece of information which would motivate them to keep this section of their NRA/ROA up to date.

Staff involvement with TVEI

The deliberate move to embed TVEI into the mainstream curriculum of schools means that, in many cases, teachers cannot differentiate between TVEI and non-TVEI resources or developments. However, since the questionnaires to schools were sent to members of senior staff with present or recent responsibility for TVEI it was felt that they would be able to provide some indication of the proportion of staff involved in a range of TVEI-related experiences.

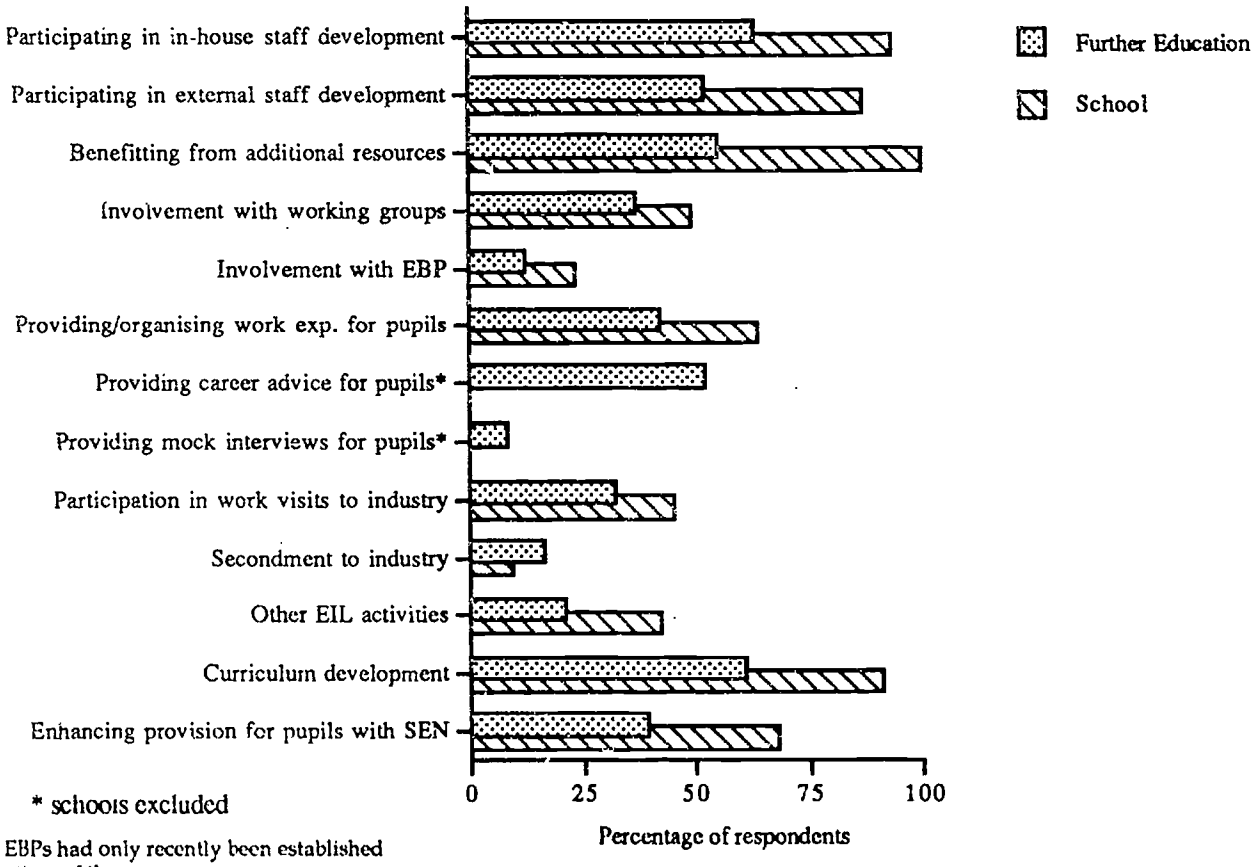
Over three-quarters of schools said that at least some staff had been involved in the following TVEI-related experiences over the last three years:

- in-school staff development;
- out of school staff development;
- benefiting from additional resources;
- curriculum development.

Staff from over half of all schools were also involved in organising work experience for pupils and enhancing provision for pupils with SEN.

School staff were more often involved in a range of TVEI-related experiences than staff at FE colleges. The exception was in teacher placement in industry where the overall numbers for both sectors were small. Figure 6.6 shows the full results.

Figure 6.6: The extent of involvement of staff in TVEI-related experiences



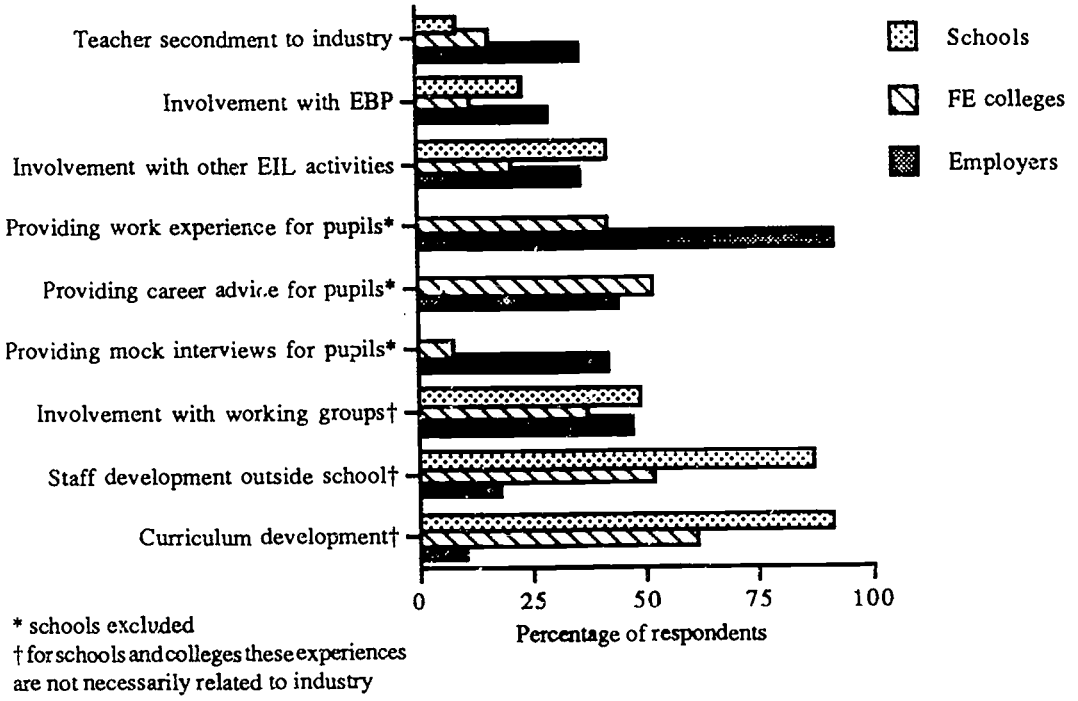
* schools excluded

N.B. EBPs had only recently been established at the time of the survey.

Education/industry links

TVEI school co-ordinators, FE school liaison staff and employers were asked about their involvement in a range of activities and experiences. Figure 6.7 shows the results.

Figure 6.7: Links between schools, FE colleges and employers



* schools excluded
† for schools and colleges these experiences are not necessarily related to industry

Some of the information cannot be compared directly eg the percentages of respondents from schools and FE colleges who claimed that staff were involved in TVEI-related curriculum development included all such curriculum development not only that with an industrial or commercial connection.

By far the largest number of employers was involved in providing work experience (92%) and more than half had other direct contacts with pupils in offering career advice and contributing to mock interviews. Some individual employers made it clear that their links with schools were varied and extensive:

> *Our extensive involvement with local schools from boards through to school/college visits is very important. These ties through Compact, TVEI, EBP etc. should develop to become part of the normal routine of education and industry training/ development. It is .. a question.. of understanding the needs and difficulties of each.*

The variety of links was, however, a possible source of confusion:

> *There are too many varied routes for EIL links e.g. Understanding Industry, Education/Business Partnership, TVEI, UBI etc. - needs consolidating and co-ordinating.*

A few employers commented on more negative attitudes to involvement from both sides:

> *Need to be sure of head teacher's commitment - not always to be taken for granted.*
>
> *Reactions [of teaching staff] have varied from enthusiastic to uninterested.*

There is still an attitude among teachers which verges on the patronising.

I believe in encouraging school/industry liaison but this view is not shared by a lot of my work colleagues..

Large companies were more likely than small companies to provide work experience, work shadowing and placements for teachers in industry.

Those offering training in management or professional posts were more likely to offer career advice to pupils than other groups of employers. Employers who offered training in either management or technological areas were more likely to be involved with mock interviews than those offering semi-skilled positions.

Employers were asked to indicate areas of education where they would welcome further involvement. Almost every area (except that of sponsorship) was mentioned by at least one employer and the most common response (almost 40% of those who responded) was curriculum development:

Much of the curriculum could be improved if advice was sought from outwith the narrow educational circle.

It is perhaps worth pointing out that whereas 27% of employers were involved in providing placement for teachers in industry, only 9% provided secondment for employees to schools.

Summary of points of interest

Work experience

- The great majority of employers provided work experience for pupils and identified this link with schools as the one they valued most highly.
- More than three-quarters of employers agreed that school leavers who had been on work experience were better prepared for employment than those who had not.
- More than half of senior staff in schools believed that work experience gave pupils the opportunity to find out what employers want, to learn more about themselves, to assess themselves and to take more responsibility than at school.
- More than three-quarters of pupils and students agreed that work experience gave them an idea of what employers wanted, made them think about how well they had done and gave them more responsibility than usual. In addition, young people also thought that it gave them the opportunity to work in a team and on their own and to improve their communication skills.
- Girls were on the whole more positive than boys towards the whole range of opportunities connected with work experience. The exceptions were in the opportunities to solve problems and use computers or technology where boys were more positive.

Records of Achievement (NRA/ROA)

- Less than half of employers and school liaison staff in HE institutions had, at the time of the survey, seen a NRA/ROA.
- Almost all school liaison staff in FE colleges had seen a NRA/ROA. Half of them had been involved in commenting on the format or content of the

document and nearly two-thirds encouraged students to add to their record while at college.

- One-quarter of employers who had seen a NRA/ROA had been involved in commenting on its format or content. Almost the same proportion of schools had approached employers for this purpose.
- No HE institutions had been involved in commenting on the format or content of NRA/ROA.
- As yet, very small numbers of HE or FE institutions used these documents as a source of information for selecting applicants for admission.
- More than three-quarters of employers who had seen a NRA/ROA found the document useful for information on qualifications and credits, details of school achievements and achievements and experiences outside school.
- Most pupils thought that the document was very useful for information on qualifications and credits and details of school achievement. The pattern of response from FE students was similar.

TVEI-related experiences for school staff

- Responses from over three-quarters of schools indicated that at least some staff had been involved in the following ways through TVEI:

  staff development (both in and out of school);

  curriculum development;

  benefiting from additional resources.

School/industry links

- Over 90% of employers provided work experience for pupils in school and about half of them had other direct contacts with pupils through the provision of career advice and mock interviews.
- Employers would welcome further involvement in curriculum development and school/industry working groups.
- A larger percentage of schools than FE colleges were involved in education/industry links except in the area of teacher placement in industry where staff in more FE colleges were involved. The numbers involved in teacher placement were small.

7 Points for discussion

The underlying aim of the national survey component of this evaluation was to gather evidence from a range of sources which would help to determine the extent to which TVEI has enhanced the acquisition of a range of personal and transferable skills - communication, working individually and in teams, problem solving, taking responsibility, enterprise and using technology.

However, before offering our conclusions on the link between TVEI and the development of skills it seems appropriate to summarise our findings in relation to a number of associated concerns. These include the value of these skills to different groups; the extent to which young people appear to have acquired these skills and whether there has been a noticeable improvement over the last few years; the part which different subjects seem to play in the development of skills; and the changes in teaching which may offer scope for skills development. At each stage where there seem to be particular implications for pupils or teachers, some points to ponder are suggested.

■ Skills valued by different groups

Different groups valued different skills. For more than half of school liaison staff in HE institutions, the skills which were very important and which should be taken into consideration when considering young people for admission were the ability to communicate orally and in writing, to work unsupervised and to solve problems. Staff with similar responsibilities in FE colleges only gave written and oral communications the same amount of importance.

Employers, as a group, focused on oral communication and the ability to work as a team. Certain groups of employers had specific requirements. Those who offered training positions to school leavers were more likely to emphasise the need to use technological skills. In addition, the ability to solve problems was of more value to those offering technical training while the ability to work unsupervised was of more value to those offering managerial training. In view of the increased emphasis on the use of technological skills by employers offering training positions, it is interesting to note that although the majority of pupils and FE students tended to think that all skills were very important, the one exception was in the use of technological skills.

Would it help pupils to know which skills are of value to different groups? How could this information be used to their advantage in preparing for their future careers?

■ How do we recognise transferable skills?

Although it was assumed that professional educators and employers would interpret these broad 'TVEI' skills in similar ways, it was considered essential to make the language more user-friendly for young people. Each skill was replaced by a series of statements which young people would recognise as the kind of

things they did in school or college. For us this was a methodological concern. However, when teachers are trying to assess their pupils on a range of skills such as the 'TVEI' skills do they have in mind a series of behaviours which they recognise as providing evidence of success? What do pupils have to do in the classroom to show evidence of, for example, taking responsibility?

> What kind of evidence should teachers look for to show that pupils can actually put these skills into practice?

The acquisition of skills

Pupils felt at ease with skills associated with oral communication, working individually and working in teams. Senior staff in schools were more positive about increases in competence across the whole range of skills than other groups. More than half of all respondents in schools and in HE and FE institutions noted an increase in the ability to communicate orally, work in teams, solve problems and use modern technology. More than three-quarters of employers were also satisfied with the ability of recent school leavers to communicate orally and to work in teams. A much smaller proportion of respondents in HE and FE institutions perceived improvement in the ability to communicate in writing, and indeed, a minority of these groups thought that communicating in writing had deteriorated. This was the only skill where any such decline was noted.

> It used to be said that young people in Scotland were inarticulate - the widely agreed improvement in oral communication must therefore be seen as a success story. How might the same success be applied to writing?

Gender differences

There were clear gender differences in pupils' own perceptions of how at ease they felt with the various skills. Girls were more likely to be happy when communicating (including writing and foreign languages), working individually or working in teams. Boys were more likely to feel at ease when solving problems or using technology. The one area of technology where more girls than boys were comfortable was in the area of word processing. In today's technological society this is now a fairly common use of computers and is also the aspect of technology which is most likely to be linked to the 'female' role of secretarial work.

> What more can schools do to address long standing gender biases?

Comparisons with the past

Earlier in the report reference was made to how today's pupils compare with pupils of five years ago in relation to four skills: problem solving/working individually, working in teams, communication and using technology. Both boys and girls had improved in all four areas with boys improving slightly more than girls in problem solving.

We were also able to compare the performance of pupils with different aspirations, ie going straight into a job or training, getting a degree, going to college for other qualifications. The general trend was the same for both sets of data. Pupils hoping to get a degree found the skills easiest, those hoping to go

straight into a job found them most difficult. However, it is the latter group which shows the greatest overall increase in comfort. This suggests that no pupils are being excluded from having the opportunity to develop these skills.

It is perhaps strange that there appears to be little or no improvement in oral communication. This is the one skill which the majority of all groups claimed had increased - but apparently not enough to make pupils feel more comfortable.

> Teachers have worked hard to encourage pupils to be more articulate and the evidence from adults involved with young people suggests that they have been successful. What can now be done to make pupils feel more comfortable with this skill?

For all three groups of pupils, whether they were hoping to go straight into a job or to continue their education, the largest increase in the ease of using skills was in the ability to work as a team. This must be of benefit to employers as they selected this skill as one they most valued.

Only one group of pupils, those who hoped to go to college, felt less comfortable in one of the skills than their counterparts of five years ago. Fewer of them found it easy to solve problems. We have already suggested that colleges may be providing courses for a wider range of ability than previously and this may be one more small piece of evidence to support this view.

> How can teachers ensure that pupils of all abilities are provided with opportunities which allow them to solve problems successfully?

The school's contribution

Subjects

Pupils, FE students and senior staff in schools were each able to identify up to three subjects which were thought to be helpful in developing each of six skills - oral communication, working individually and in teams, problem solving, taking responsibility and using technology. There was widespread agreement across the groups about those which featured most frequently but the range of subjects mentioned by at least some pupils for each skill was extensive.

> In what ways do teachers analyse their own subject in terms of its appropriateness for the development of certain skills?
>
> To what extent are they aware of which other subjects are developing the same skills?
>
> How could this information be shared with pupils?

Teaching methods

Senior staff in the majority of schools thought that group work, pupils doing the same work at their own pace, pupils doing differentiated work, resource-based learning, teaching using modern technology and team teaching were all on the increase. Only whole-class teaching was identified as decreasing. The methods which teachers claim are being used more frequently now are also those associated with the development of personal and transferable skills.

Most young people claimed that whole-class teaching took place very often although less than one-third thought that this method helped them to learn. Doing the same work as others but at their own pace was considered to be the best method for learning and was perceived to be used very often by one-third of

pupils. Girls were more likely than boys to say that the methods used most often for teaching were working in groups on shared tasks and doing the same work as others at their own pace. This was in accord with how they liked to learn. The same match was not noted for boys.

To what extent is there a disparity between the teaching methods most commonly used and the methods which are most effective in helping pupils to learn?

How might teachers try to find how their pupils prefer to learn?

How might teachers be made aware of the potential of the methods they use to develop personal and transferable skills?

How can teachers be helped to analyse their own teaching methods in terms of suitability for the activities in the classroom?

The TVEI factor and influences for change

The evidence suggests that the skills which have been given prominence by TVEI are indeed being acquired by pupils in schools. The skills are recognised as valuable to groups outside school and young people's ability in most areas is on the increase. What factors might be influencing these developments? Two explicit factors for change promoted by TVEI are the introduction of work experience and the development of Records of Achievement. To what extent can they be said to enhance the development of 'TVEI' skills? What other more implicit influences for change have been identified by respondents? To what extent can we differentiate between these various factors?

Work experience

Between 80 and 90% of all S5 and S6 pupils and 66% of S4 pupils in our sample had been on work experience at the time of the survey. For S4 pupils, in particular, the percentage who had been involved is more likely to reflect the timing of our survey than the true proportion of pupils who are involved in work experience in S4. More than three-quarters of pupils agreed that work experience helped them to communicate orally (by talking to strangers) and in writing, to work on their own and as part of a team and to take more responsibility than they would in school. Boys were more likely than girls to agree that work experiences had involved problem solving and using computers. This last difference is more likely to reflect the type of work experience offered than a difference of agreement and may again be an indicator of more long standing gender bias in the types of jobs considered suitable for boys and girls. It should also be noted that employers valued the work experience link with schools both for giving pupils a taste of what employment was like and for giving employers a chance to assess the qualities of young people.

How can employers be persuaded to take account of pupils' work experience and other vocational experiences when considering them for employment?

How can it be ensured that pupils are given equal opportunities to go on work experience which involves the use of technology?

Records of Achievement

The process of preparing a Record of Achievement provides one way of ensuring that the skill of taking responsibility is developed. Overall, just under two-thirds of pupils claimed that they were responsible for choosing all or most of what went into their own record. This proportion rose to three-quarters if pupils at S5/S6

only were considered, indicating, as would be expected, an increasing degree of responsibility for pupils as they progress through school.

In the National Record of Achievement, the section on Other Achievements and Experiences makes explicit reference to including evidence of achievement in the core skills. These include communication skills, problem-solving skills and information technology. There is no reason why pupils should not be given additional guidance on commenting on those areas where they have been able to use the other 'TVEI' skills.

> How might NRA/ROA take more account of the whole range of core skills nurtured by TVEI?

Earlier in this report we noted that, as yet, HE and FE colleges made very little use of the NRA/ROA as a source of information about candidates for admission. We also noted that more than half of HE institutions thought that it was very important that the ability to solve problems, to work unsupervised and to take responsibility should be included when considering applications for admission. At the same time the majority of HE institutions claimed that these skills were difficult to take account of. There seems to be the possibility of the NRA filling this gap. If students know that these skills are important to HE institutions they can make a point of including in their record evidence of their abilities in these areas. There is now a reference to Records of Achievement on the standard application form to HE institutions and it may be that in future years the NRA will fulfil this function.

> How might the NRA/ROA be more closely geared to the interests of 'consumers'? What might be the agenda for discussions with these groups about the content and/or format?

Other influences for change

Senior staff in schools and school liaison staff in FE and HE institutions were all asked, in an open question, to identify those factors which they believed had caused changes in pupil competences. Staff in HE institutions most frequently mentioned changes to the school curriculum e.g. increased problem solving and critical thinking.

Staff in FE institutions also referred to changes to the curriculum e.g. the introduction of skills and competence-based work. More than one-quarter mentioned the impact of TVEI in a variety of ways - development of PSD, work experience, introduction of technology. FE institutions were the only group who included negative influences and comments.

Staff in schools were more diverse in the sources which they perceived as having influenced changes in pupil competence. Most frequently, changes to the curriculum and in particular to examinations and assessments e.g. Standard Grade, Revised Highers and SCOTVEC modules were mentioned. The second most frequent causes were various aspects of TVEI including PSD, in-service training and problem-solving inserts. Changes in teaching and learning methodologies were also cited by a substantial number of staff. This last, was an interesting finding as it led us to consider the responses to another question which asked senior staff in schools how teaching had changed and to identify those factors which they believed had caused the change. The influences were again similar to those suggested for the improvement in pupil competence but in this

case TVEI was most frequently cited as a positive influence for promoting change. TVEI-related curricular developments, in-service, resources and PSD were all mentioned. Methodological changes required by new examination courses were referred to by almost the same number of staff. Staff development and modern technology were cited by a substantial minority.

It is clear that a range of initiatives have come together at more or less the same time working in the same direction to focus on the development of transferable skills and to promote changes to teaching and learning which will assist in the development of these skills. The two major strands seem to have been the introduction of TVEI and new examination courses such as Standard Grade. Both were introduced at almost the same time. The first Standard Grade courses in English and mathematics were assessed in 1984. The first TVEI pilot projects in Scotland were set up in the same year. They had many features in common. Both was an intention to cater for young people of all abilities in the age range 14 to 16 and there was an emphasis on the development of skills.

Many of the features associated with TVEI have been shown in this evaluation to have assisted in the development of personal and transferable skills - pupils and teachers have agreed that work experience has provided the opportunity to use these skills and they have identified personal and social development as an area which helps with the development of some of these skills. The NRA is a document which provides explicitly the opportunity for pupils to record their achievement and experiences in relation to core skills. Teachers have cited the increased use of modern technology as a factor which has both increased pupils' ability to use technology and changed their own teaching practice. TVEI-related staff development has been identified as a major force in developing new methods of teaching and learning and these methods have in turn been held to be a major factor in the improved competence of pupils.

Standard Grade courses (and more recently SCOTVEC modules and Revised Highers) have had very similar effects and have been alluded to as a factor for change just as frequently as TVEI. The courses are based on sets of skills - the extended grade related criteria (EGRC). Talking and listening in English, extended investigations in the social subjects, problem solving in mathematics and science covered a whole range of skills which had never been assessed before. Teachers had to change their ways of teaching in order to fulfil the requirements of the courses.

Separating one influence from the other is, therefore, not feasible. Two effective agents for change have been operating alongside each other, building on the strengths of each to help young people develop the range of personal and transferable skills needed to cope in a rapidly changing society.

8 The role of TVEI

There is sufficient evidence from the survey to show that the skills which TVEI identified as the focus for this study are among those valued by staff in FE and HE institutions and employers. The majority of school liaison staff in FE and HE institutions and senior school staff agreed that performance had improved in the ability to communicate orally, to work in teams, to solve problems and to use technology. Senior staff in schools were particularly well pleased as more than half thought that there had been improvement in all 'TVEI' skills. More than 90% of employers were satisfied with the performance of recent school leavers in the two skills which they had identified as most important - the ability to communicate orally and to work in teams. Comparisons with pupils in 1993 and 1988 indicated that more pupils felt at ease in their ability to communicate, to work in teams, to solve problems and to use technology. More than three-quarters of pupils also believed that school was good at helping them develop each of the skills. There is, therefore, evidence to suggest that schools have been successful in helping pupils to acquire most of the 'TVEI' skills. Is there any evidence that TVEI has played a role in this success?

Evidence for the positive influence of TVEI comes partly from teachers' perceptions in response to two questions in the national survey and partly from our discussions with senior staff in the schools we visited. The two questions in the survey were:

- what factors influenced changes in pupil performance?
- what factors influenced changes in teaching methods?

Factors influencing changes in pupil performance

Although the largest number of teachers referred to changes in the curriculum such as the move towards Standard Grade, Revised Highers and modules, the second largest group referred to a range of TVEI experiences. These included technology enhancement, problem-solving inserts, development of PSD, work experience, enterprise education and targeted staff development. The third most frequently suggested factor was new learning and teaching methods such as pupil-centred approaches, flexible learning and active participative learning. This last factor leads neatly into the responses to the second question.

Factors influencing changes in teaching methods

The influence selected by the largest single group of school staff was TVEI. It was recognised to have been instrumental in promoting pupil-centred learning, differentiation and flexible learning. New examination and assessment arrangements were mentioned by the second largest group. Staff development and the increased use of technology were also highlighted by several respondents and these too were often linked to TVEI in our discussions with staff in schools.

School D which used staff development on flexible learning as part of a whole-school approach to the development of skills and also provided enterprise education for S3/S4 pupil, acknowledged the importance of TVEI in both areas. The special schools we visited had depended largely on TVEI for technological resources and training to open up a new world of communication and achievement for their pupils. Staff had also benefited from the quality of staff development offered by TVEI. Senior staff in School A felt that without the training and expertise offered by TVEI, the audit of skills which was at the heart of their approach to skills development would have been far less effective.

It is clear that a range of initiatives including TVEI, Standard Grade courses and, more recently, Revised Highers, modules and the 5-14 development programme have all been working together to focus on the acquisition of personal and transferable skills and to promote changes to learning and teaching which will help develop these skills.

Successful approaches to the acquisition of 'TVEI' skills

Two basic strategies designed to promote the acquisition and development of personal and transferable skills were used in the schools we visited. These strategies, whole-school approaches and specific skills-based courses, were not mutually exclusive.

Three vignette studies emphasised a whole-school approach to the development of skills:

Vignette A	An audit of skills to identify common skills and ensure that these were neither under-taught nor over-taught.
Vignette D	A staff development programme on the 'demystification' of flexible learning to encourage teaching methods which would promote the development of the skills which were the focus of this study.
Vignette E	Personal and transferable skills as permeating skills across the curriculum for pupils with SEN.

Schools in three studies used specific skills-based courses for the development of selected skills.

Vignette B	Personal and social development for senior pupils which focused on the skills of communicating, working in teams and taking responsibility.
Vignette C	An entitlement for S3/S4 pupils in social and vocation skills and physical education (both Standard Grade courses). SVS focused on the skills of oral communication, working in teams, solving problems and taking responsibility.
Vignette D	Courses on thinking skills for pupils in S1/S2 and enterprise education for pupils in S3/S4. Enterprise education influenced the development of oral communication, working in teams, solving problems and taking responsibility.

The various school strategies designed to encourage the acquisition and development of 'TVEI' skills were mainly successful in their aims and the full descriptions in *School for Skills: Vignette Studies* highlight their successes and limitations.

Whether a whole-school approach or a specific skills-based course was used common themes emerged for each.

- Whole-school approaches involved:
  - beginning with a small band of enthusiasts;
  - identifying existing good practice;
  - consulting widely;
  - making the best use of existing expertise within the school;
  - analysing staff needs;
  - targeting staff development;
  - phasing in initiatives;
  - supportive senior management.
- Specific skills-based courses depended on:
  - making pupils aware of the skills being taught;
  - providing opportunities for identified skills;
  - using pupil-centred teaching methods;
  - emphasising choice for pupils.

Looking to the future

TVEI has had a major role to play in influencing the acquisition and development of personal and transferable skills working hand in hand with other initiatives. As one of the headteachers whom we talked to made clear TVEI was one of several positive influences in this regard:

> *I would find it hard to separate out TVEI from the rest of developments. It's an underpinning of all your strategies to take learning and teaching right across the school. One wonders how one would have done without it but it has been integrated with the whole approach within the school to support learning.*

Young people preparing for working life in today's rapidly changing society can no longer look forward to continuous employment in the same fields. They must be prepared for a number of career changes. All the personal and transferable skills which have been the focus of this study will stand them in good stead in any employment and indeed in adult life, some of the skills having a greater or lesser emphasis at different periods. The descriptions and comments provided by teachers who participated in this study may suggest strategies which can be tried or adapted to suit the needs of all young people.

DESIGNED & PRINTED BY METRO PRESS, EDINBURGH