A more traditional use of "vocational" shows the harmony between vocational and liberal education. The difference is in content and vehicles for learning. Using the same processes and goals in vocational education as in the rest of liberal education helps to ensure that vocational students are capable of adapting to the significant changes in life-style and work patterns embedded in the concept "post-industrial society." Vocational education can take advantage of young people's interest in vocational subjects as a means of motivating them to learn useful life skills. Resistance to change can be countered by showing how the changes are required for economic and social health and are in a practical, not an academic, direction which will be an advantage to students. In Scotland, as well as the rest of Great Britain, a radical change in the curriculum aims at common learning processes for all students. Attempts are made to avoid unnecessary and arbitrary distinctions between academic and vocational aspects. The net result of recommended changes will be to abolish the distinctions between vocational education and other forms of education by bringing the best features of current vocational education into every part of education, while putting no student at a disadvantage. (YLB)
Four years ago at this AVA meeting Rupert Evans delivered a paper on the Goals and Philosophy of Vocational Education. His presentation, my own work, and developments in Scotland and the rest of Britain since 1981, have all come together and have led to this paper which focuses on where vocational education is heading.

In the paper to which I referred, Professor Evans cited Richard J. Burke's distinction between liberal education with its goal of producing "a person able to make independent decisions as an adult, and participate effectively in public decisions that affect him" and vocational training as "training for one role considered useful by one society, under masters whose authority, based on experience, cannot be questioned."

That led me to question whether the true distinction between vocational education and vocational training was not in fact between education and training as most authors have assumed, but in different uses of the word "vocational."

The use of the term "vocational education" originates in education for the "callings" of the Church, the Law and Medicine, the major subjects in ancient Universities and jobs in the community. More recently, however, we have perverted the meaning to denote preparation for a specific job or range of jobs and thus made it synonymous with "occupational education". I believed that if we wished to continue to use the term vocational education we should recognise its ancient meaning as more consistent with our actual goals.

Having made that distinction I was then able to go further and recognise that the principal purpose of Professor Evans' paper, to stake a claim for a fourth objective for vocational education, i.e. "To increase the ability of workers to improve the quality of work and of the work place" [Evans 1981], was as applicable to the whole of life as to the working portion of life alone.
That then led me to believe that in fact vocational education was a full and complete part of liberal education as Burke defined it. The difference thus between liberal and vocational education was not a major difference in philosophy but simply a difference in content and vehicles for learning.

Vocational education under this model may be concerned with automobiles or cookies and it may take place more in a work placement or community setting than in a school or college, but it will nevertheless be part of liberal education using processes of learning which are student-centred and having goals which are concerned for the autonomy and independence of the learner.

New Labour Markets

Not only would using the same processes and goals in vocational education as in the rest of liberal education move us nearer to parity of esteem between academic and vocational studies, but it would also help to ensure that students who major in vocational courses are capable of adapting to the significant changes in life styles and work patterns which are embedded in the concept "post-industrial society".

As work becomes ostensibly more specialised there is an increasing polarisation between the few jobs which require high levels of intelligence and training and the many jobs which require minimum training. All jobs do, however, require judgement and decision-taking and increasingly jobs require an adaptability and flexibility which is not commonly acquired in conventional training programmes. In other words a vocational education system which points its students at a specific range of employment is not only misjudging the fluidity of contemporary labour markets but it is also denying them the opportunity to develop the adaptive behaviour which will help them to survive in those labour markets. It is for this reason, among others, that the Japanese have little or no vocational education in their high schools, reasoning that "What we want is good people; we can make anybody an engineer. But the best engineer in the world needs to be able to work with others to be effective." [Institute of Manpower Studies 1984].
Encouraging young people to aspire to jobs in the steel industry, the auto industry, the railway system and giving them education which focuses on the skills required by these industries made sense when these industries had stable or rising demands for labour. But now that these industries are contracting or automating, such education makes little sense. And even when jobs still exist in such "smokestack" industries, the skill requirements are quite different. To return to my distinction between "occupational" and "vocational", it could be said that old industries demanded occupational skills, such as the technical competence required by the jobs therein, while new and renewed industries require vocational skills, such as the ability to make decisions, to relate well to other people, to work as a team and to have such breadth of education to have a high quality of life even when one's income is derived from routine or boring jobs. That, in turn, then indicates that an auto course in high school is taking advantage of young people's interests in autos as a means of motivating them to learn useful lifeskills rather than helping them decide whether to enter the auto repair or auto manufacturing industries.

Let us remember the jobs "that are likely to occupy the most people in the future: clerks and secretaries, janitors and sextons, restaurant workers, and health professionals. These are the major jobs in the future in terms of sheer numbers. High technology will consume no more than 9 or 10 per cent of the employable work force". [Lindeman 1984]. The technical skill demands of most of these jobs are not sufficient in themselves to justify major occupational education programmes, but the "human skill" demands are sufficient to make clear what the vocational education strand can contribute to liberal education.

**Worries about change**

I make no apology for giving human and inter-personal skills such importance, since I have a relatively clear picture of the post-Industrial labour market in the 1990's and of a reduction in the working week, both requiring education to produce a more balanced, independent-minded output. But I am not blind to the strains that such a shift in emphasis will cause.

1. Some students will be concerned that the new approaches to vocational education will be too challenging, since making relationships is more threatening than making machine parts. People talk back.
2. Parents will be concerned that the successes of schools will not be assessable in familiar terms such as numbers of certificates and diplomas, numbers of students placed in jobs. Human skills are less visible than technical skills.

3. Teachers will be concerned that new approaches require new skills and may doubt their ability to teach this way or to get on well with young people. Some may even lose their jobs.

4. Schools as institutions will be concerned that conventional models for ensuring conformity and achieving control, such as tracking, will not be applicable when all courses use common processes and one key process is stimulating cooperation rather than competition. The needs of children will be greater than the needs of schools.

5. Employers may be concerned, as schools will be, that the "competitive edge" will be taken off their managerial styles by having to consult their workers.

6. Organised labour may be concerned that in a time of change, young people with today's skills offer themselves for work and displace union members with yesterday's skills who can only hold on to work so long as school outputs are predictable.

These problems "are magnified" as Bruce Dollar [Dollar 1983] says "significantly during any economic recession. Employers in both public and private sectors cut expenditures, labour suffers rising unemployment, and workers with low skills or little seniority rejoin youth in disproportionate numbers in the ranks of the jobless. The pinch is also felt by the schools, where voters demand, in the one public institution whose budget they can limit directly, an end to the frills — that is, to all but the traditional core programme".

Nevertheless, it is precisely in a time of economic recession that change is required not only to restore the nation's relative position in the international economy but also because, on this occasion, we are not going to return to full employment as we knew it and the public wealth will have to be directed to "quality of life" as much as to "quality of work".
The Scottish example

We, in Britain, and particularly in Scotland, are presently on the first stages of a journey from occupationally-based education and training, with its connotations of hierarchy and conformity, towards a more liberal system. We are driven by economic necessity, we waver from the path occasionally when government shrinks from the consequences of its own policies, but the road ahead seems clear enough and I would like to map out our progress for you.

At school level our philosophy is described in a national committee report [Consultative Committee on the Curriculum, 1977 (para 5.21)] as follows:

"Our recommendation is therefore that all pupils should undertake study in each of seven areas: English, mathematical studies, physical education, moral and religious education, science and technology, social studies, and the creative arts. We consider that the study undertaken in these compulsory areas should take up about two thirds of the pupils' curriculum. For the remaining time, pupils should be free to choose two or three additional subjects".

Arising from this report we now have achieved a curriculum based on theories of "balance" in which no particular emphasis, such as academic or vocational, dominates and in which all pupils experience the full range of modes of learning and study.

Beyond the minimum leaving age of 16, about half of all young Scots progress to full-time or part-time study in colleges of further education whose major focus is preparing young people for work, i.e. occupational education. They too have recently embarked upon radical change, described as follows [Scottish Education Department, 1983]:

"There must be established a number of aims which will give direction to what is provided..." (para 2.7)

"The first cluster of aims is concerned with the development of knowledge and understanding of oneself, of one's community and of the environment..." (para 2.8)

"The second cluster of aims is concerned with skills..." (para 2.9)
"The third cluster of aims is concerned with the attitudes, values and motives which prompt people to act in particular ways or make particular decisions..." (para 2.10).

"In setting down these clusters of aims it must be remembered that within this age group, traditionally, there has occurred some divergence between academic and practical lines of study, between education and training, as young people begin vocational or pre-professional specialisation. It can be argued, on the other hand, that at this stage there should be no abandonment of broadly-based education, and where specialisation is necessary it should be sought through appropriate emphases. The necessary transition should be planned in such a way as to allow for a bridging between knowledge of theory and experience of application, partly to improve personal motivation which will arise from active involvement in the process, partly to develop knowledge and skills, partly to take account of the industrial and commercial needs of society itself. And, if it can be supported within the framework of a broad curriculum, such a strategy, moving as it does from general to particular applications, is also likely to provide a better basis for further training or retraining, quite apart from the advantages which other curricular aspects will bring in (terms of) personal and social development". (para 2.12)

This report is currently being implemented as an attempt to shift further education from an occupational to a vocational bias and to extend the provision for personal development in response to the new dynamism of the labour market and the realities of unemployment.

For the young unemployed, our Manpower Services Commission, which has responsibilities for employment and training throughout Britain, is also promoting its own programme of change [Manpower Services Commission, 1982].

"From the point of view of young people the immediate employment and training prospects - and the choices these imply - are grim, without the major intervention of public policy. The shape of that policy will have to reflect their longer term needs:

a) because their future employment destination is uncertain, more than job- or firm-specific training is required;
b) because the context of work is changing and more and more people are involved in processes, rather than the repeated performance of a single task, training has increasingly to meet the needs of a variety of industries, firms and occupations;

d) because the labour market is highly competitive, basic knowledge of the world of work, job search and other skills is essential;

e) because young people may well experience spells of unemployment, personal and life skills are needed to help them survive and benefit from change;

f) last, but not least, because young people have their own expectations and aspirations, opportunities must be designed for their benefit as well as those of the economy." (para 2.5)

This MSC provision has been in existence for some years and from 1986 will offer two years of work experience, education and training for all who enter, or aspire to enter the labour market at 16. The programme will be primarily vocational not occupational.

While each of the schemes I have described caters for a different target group and is delivered through different contexts, thus making it possible to reach all young people with a relevant form of provision, they are coherent in attempting to avoid unnecessary and arbitrary distinctions between the academic and vocational aspects of the curriculum. Our new-found belief in the overall coherence of curriculum and our rejection of narrow occupational education is represented in two statements. The first concerns purpose:

"The content of subjects that make up the curriculum and the styles of learning employed indicate the school's thinking about the need to stimulate and encourage its pupils to acquire not only personal, social and intellectual skills but also certain attitudes. These might include inventiveness, enjoyment, curiosity and perseverance in their studies, a capacity to work independently, a sensitivity to aesthetic values, an understanding and concern for other people and groups, a desire to understand and respect the environment in which they grow up and a realisation of their strengths and weaknesses." [Department of Education and Science, 1979]
The second [Scottish Education Department, 1984] concerns method:

"Teachers should therefore seek opportunities for:
- promoting learning through activity by students;
- using a problem-solving approach to learning;
- enabling students to apply skills in different contexts;"
(para 6.1).

"The stated outcomes of modules involve a range of thought processes, such as planning, designing and analysing, as well as practical skills. Although the content of a module may still be important, there are many cases where it is merely the vehicle for development of these skills and does not provide the main focus in the development of learning approaches." (para 6.2)

"The emphasis is being placed on the participation of learners in the learning process, on their interaction with their teachers and with each other and on the use of a variety of resources for learning." (para 6.5)

From a Scottish point of view it is possible to see, in the 1990's, both more and less vocational education. More because all of our education is now being stimulated to adopt the "experience-based", "out-of-school", and "relevant to work and life", characteristics which typify true vocational education. Less because when the whole curriculum exhibits these characteristics, any choice of school subjects will equip young people with a range of skills which are suited to survival in the labour market and thus the specific occupational subjects are no longer justifiable in terms of their distinctiveness.

A system whose time has passed

Our education systems over the last one hundred years have been based on industrial models. Breaking the day down into fixed and short segments of time; using didactic methods which encouraged passivity and conformity among students; having systems of management which were bureaucratic, autocratic and hierarchical; these were the characteristics of most of schooling and much of industry. When these models prevailed it was little wonder that
some of us strongly supported occupational education with its activity-based methods and its potential for job satisfaction and upward mobility through the acquisition of skill or managerial competence. As Professor Evans implied in 1981, we had to maintain such education because it provided motivating experiences which kept students in school, reduced unemployment, gave non-academic students feelings of achievement, gave non-professional work a status, increased equality of opportunity and so on.

But an economy which depends on manufacturing industry is becoming a concept of the past. It has been claimed that by the year 2010 only 4%-5% of the US labour force will be in manufacturing industry. The modern economy in both its reliance upon high tech industry to provide wealth and its service and knowledge industries to provide employment, requires a different labour force. That labour force is required to work to infinitely varied work patterns, to exercise initiative and take decisions, to participate in running their companies in a variety of ways ranging from quality circles to co-ownership. The whole of education is then also required to change, using methods designed to develop such a labour force. Many of these methods such as EBCE (Experience-Based Career Education) are used by today's vocational educators but need to be taken across the whole curriculum under the banner of LBP (Learning by Participation). As that happens the need for separate occupationally-oriented courses fades and Professor Evans' fears if vocational education was abolished become groundless because the very attractive features of such education would then pervade the whole curriculum and all programmes would be attractive to students.

This shift and the reasons for suggesting it to vocational educators are well summarised by Bruce Dollar, recent Associate Director of the US National Commission on Resources for Youth [Dollar 1983].

"Vocational or vocational-technical education is concerned with providing occupational skills, and is more concerned with giving young people advanced training and thus a headstart in the occupation the student chooses. While an LBP programme may well expose young people to occupations they might choose, it also emphasises the cultivation of more generalised personal skills and resources such as responsibility, decision making, compassion and cooperation. In fact, an LBP programme may well be seen as an opportunity for youth to be exposed to jobs in institutions they are not likely to choose, as a
means of deepening young people's understanding of their community. LBP may also be integrated with the academic study of a related field, such as social sciences, and may readily be linked with development in the affective domain, including understanding values, group processes and personal problem-solving - areas that are not usually encompassed by the vocational curriculum."

Encouraging as it may be therefore to have occupational education recognised in Federal legislation, my view from a Scottish standpoint is that even the Carl D. Perkins Act of 1984 is now out-of-date and backward looking. The so-called "new vocationalism" with its greater emphasis on process than content, and its links with the rest of liberal education through concepts such as independence and participation demands recognition and an acknowledgement that previous, more occupational, systems can be phased out. There will still be many different settings for educational programmes, matched to student needs; there will still be a great variety of content; but all education from the Classics to Cartography, from Physics to Plumbing, will use common processes and methods.

**Summary**

1. We have tended to use the word "vocational" when we have meant "occupational". A more traditional use of "vocational" would have shown us the harmony between vocational and liberal education.

2. We have concentrated on "quality of work" goals which merely reinforce the distinctions between "workers" and "professionals". Quality of work should merely be a sub-set of quality of life.

3. Moving vocational education in a liberalising direction is also necessary because of changes in life styles and labour markets which require more breadth and adaptability in adults.

4. Programmes of study in school and college will have different titles and different content to maximise the motivation of individual students, but they will use common processes and methods.
5. There will be resistance from yesterday's students to pointing vocational education in this new direction but the resistance can be countered by showing how the changes are required for economic and social health and are not in an academic direction which would disadvantage today's students, but in a practical direction which will advantage all tomorrow's students.

6. In Scotland particularly, but also in the rest of Britain, we are now at the beginning of a radical change in the curriculum which aims at common learning processes for all students, irrespective of their programme of study. These changes are designed to improve economic performance and the quality of life. Early indications are that these changes have been successful, especially for the less-able.

7. Our industrial training and occupational education models have served us well for one hundred years. It is no longer enough to tinker at the edges of these models. New technologies are producing demands for a new style worker and citizen which require totally new models for education.

8. The net result of the changes recommended here will be to abolish the distinctions between vocational education and other forms of education, by bringing the best features of current vocational education into every part of education, while disadvantaging no student. As in the ancient Universities, all education will again be Vocational.
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