# EMPLOYERS' PERSPECTIVES ON CURRENT QUALIFICATIONS FOR THE COLORATION INDUSTRY

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*The candidate confirms that the work submitted is his own and that appropriate credit has been given where reference has been made to the work of others.*

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**Michael Roberts**

# *Employers' perspectives on current qualifications for the coloration industry*

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**Abstract**. The introduction of the competence-based NVQ framework during the late 1980s represented one of the most radical and ambitious attempts hitherto undertaken by any UK government for reforming the British vocational education and training system. While these reforms have generated an abundance of studies relating to competence-based education and training generally, by contrast, there has been only limited research into the views of employers towards adopting this approach.

The aim of this thesis, therefore, is to investigate the views of employers in the coloration industry towards the potential displacement of traditional, knowledge-led qualifications by competence-based forms. This is important in view of the central position within the NVQ system that successive governments have placed employers and, *de facto,* employers' bearing on its ultimate success or failure. Their views become all the more significant in the light of earlier studies, which reveal the indifference shown many UK employers', compared with their overseas competitors, towards securing quality education and training for their employees.

Combining the findings drawn from a series of interviews conducted with key training personnel with those from a questionnaire survey of employers themselves, the research attempts to gain a national perspective of the latter's attitudes towards these and related issues.

The overall findings can be seen to be a product both of the type of industry structure and the failure of the main protagonists to take account of the epistemological differences between differently acquired forms of knowledge. Most employers feel that the current examination-based system is not wholly relevant to their immediate business needs and that they would prefer to see schemes in place that focus more on their particular occupational activities (though it is evident that there is a diversity in attitude between the two main sectors of the industry (viz. colorant manufactures and colorant users) with more companies in the former sector seemingly being more tolerant of the limitations of what the education and training providers can deliver). While both sectors value a system that provides intrinsic benefits to their respective employees, it is suggested that this stance is not entirely altruistic as these benefits may also be interpreted in organisational terms.

Finally, the success with NVQs reported by companies that have implemented them at the lower, operative level tends to overlook the problems created for those sections of the workforce marginalised by their introduction. Moreover, despite their evidently satisfactory implementation at this level, it appears that employers overall are reluctant to adopt the standards-based model to supplant the discipline-led provision that is currently available for their higher-level technical staff.

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# Chapter 1

## INTRODUCTION TO THE RESEARCH

### CONTEXTUAL BACKGROUND

The broad issues for investigation relate to the introduction, in 1986, of what has probably been the most radical and ambitious overhaul of the country's vocational education and training system undertaken by any government – namely, the system for National Vocational Qualifications (NVQs). The aims of the study were (i) to investigate the views of employers[1] within the coloration and related industries on what are accepted as the traditional (viz. examination-led) routes to attaining professional qualification within these industries; (ii) how employers perceive competence-based (as opposed to examination-based) approaches; and (iii) to identify the implications of replacing examination-based qualifications by NVQ awards.

Briefly, NVQs are qualifications that are designed to attest to an individual's ability to apply skills and knowledge in the workplace in line with nationally recognised, industry-determined standards. They are unit-based, though the number and size of units of which the NVQ is comprised varies between occupational areas. Each unit is made up of a number of elements of competence – each element being assessed against specific performance criteria over a range of work situations – which together represent a coherent entity that is capable of separate certification. Knowledge evidence may also be used to supplement that available from actual performance (NCVQ, 1990; Debling, 1991; Raggatt, 1991). Additionally, the notion of the accreditation of prior experiential learning (APEL) is intrinsic to the NVQ model and

[1] The term 'employers' is used throughout to denote those people (often individuals) within an organisation who have strategic responsibility for its education and training function.

permits ‘uncertificated’ learning to be assessed and counted towards an academic award (Walton, 1996).

Employers have increasingly been seen by various political parties as the key stakeholders in the area of vocational education and, as such, have been encouraged (particularly so under the former Conservative administration) to take a more proactive role in many of the new and developing arrangements for education and training (Guy, 1991). Thus, in relation to the NVQ system, it was decreed that a substantial measure of control over occupational standard setting should be given to employers:

“It is employers who recruit and employ staff, and it is employers who have expectations of the performance of those staff. It follows that employers and industry representatives should set the standards” (Fletcher, 1991, p23).

**THE COLORATION INDUSTRY**

The choice of industry for investigation reflects the researcher’s professional industrial experience. However, it also offers a fruitful site for studying issues of education and training. Whilst being a ‘mature’ industry, the coloration industry is not an industry that is particularly well-known to the general public (as is, for example, the motor-manufacturing industry); however, it is in fact a significant UK industrial sector in terms of its national distribution and the scope of work covered. It is a scientific and technology based industry comprising two distinct sectors: (i) companies that manufacture colorants (dyes and pigments, including auxiliary chemical products) and (ii) companies that use these materials for such diverse applications as the coloration of textiles, paper, plastics, wood, ceramics, paints, printing-inks, foodstuffs and cosmetics. Less than ten years ago, the turnover for the UK colorant-manufacturing sector alone was stated to be more than £750 million per annum (SDC, 1997).

The majority of employees in both sectors work on the shop-floor, mainly in the capacity of semi-skilled process workers or machine operators. The work is managed by production staff, who are either colour chemists or colour technologists. Those chemists or technologists not involved in the production process may be engaged in researching, devising or developing new products and processes; others may be employed in technical sales or in technical-service and testing laboratories. Historically, school-leavers have always played a major part in the industry's trainee-recruitment programme; however, higher staying-on rates over the past decade or so have increased the tendency to recruit at graduate level.

With regard to the industry's education and training, whilst there is a clearly defined structure in place for training and progression for technical and managerial staff, that for operatives and process workers is less formalised. In the manufacturing sector, there is an expectation that technical staff will be academically qualified; however, on the colorant application (using) side, there is less of a demand for formal qualifications (though most technical staff are in possession of at least a BTEC National level qualification), the emphasis being on practical expertise. However, in some of the smaller-sized businesses, there is limited – if any – opportunities for participation in vocational training for staff at all.

The chemical revolution of the late 19$^{th}$ century transformed what had begun as an ancient craft into a highly scientific technology. These advancements resulted in a significant demand for qualifications. The continuing pace of technological change has meant that the underpinning knowledge requirements of those employed, or seeking employment, in the industry is now radically different even to the needs of twenty years ago. More recent developments have included the automation and mechanisation of processes. Whilst these have challenged the ingenuity of the chemists and technologists, particularly those in the manufacturing sector, there has

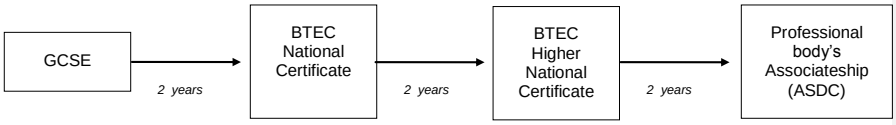
been a tendency towards de-skilling in certain areas accompanied by re-skilling in others. Thus, as a result of 'black-box' technology, the enormity of experience necessary to match colours by visual inspection has now been displaced by the need for computer literacy. These developments have also resulted in changes, which have a lot in common with what has been referred to as 'flexible specialisation' (Phillimore, 1979) with regard to labour requirements, especially in relation to production processes where there has been a blurring of white-collar and blue-collar working. Automation and mechanisation now allow the colour technologist to take on, from the relative comfort of the office environment, what were formerly the manual tasks performed by the machine operative.

Although (drawing on my personal experience) I have observed that some parts of the industry are forward-thinking and dynamic, and are engaged in devising high-quality and innovative products and processes, there are many companies that are still steeped in the low-cost, mass-produced products and services characteristic of what as been termed *Fordism* (e.g. Murray, 1989). Given this degree of diversity, there are concerns about training at all levels from semi-skilled to senior-scientific and managerial. Furthermore, maintaining high-quality training and making improvements is likely to be important to the future of the industry, especially in view of its vulnerability in relation to competition from other countries, which now compete in terms of quality as well as price. Focusing on the employer perspective, this thesis explores some of the uncertainties and debates about what such training should involve.

**RESEARCHER'S BACKGROUND AND EXPERIENCE OF THE INDUSTRY**

The researcher was formerly a senior administrator with responsibility for the educational activities of a UK-based professional and learned body for the colour science and colour technology industries—The Society of Dyers and Colourists. The

Society, which is incorporated by Royal Charter, examines, sets and marks examinations to its own syllabuses leading to its professional awards of Associateship (ASDC)[2] and Licentiateship (LSDC). The examination-based route into the Society's Associateship scheme has tended to mirror those of full-time degree courses. For school-leavers entering with the appropriate GCSEs, the normal period of study to ASDC is six years following a part-time route, viz:




The Business and Technology Education Council (BTEC) Higher National qualification above is awarded on the basis of written and practical examinations after completion of a part-time academic programme totalling four years from GCSE level. The qualification is designed to prepare students for entry to the professional body Associateship course which, until a number of years ago, was offered by a number of colleges/universities throughout the UK catering for an average annual intake of around a hundred final-year students. More recently however, the number of teaching centres in the UK has been reduced, and the continuation of the above underpinning BTEC courses has been further threatened by the establishment of a Level 3 NVQ in coloration and the proposed introduction of a relevant Level 4 qualification.

[2] The Associateship qualification, which also confers chartered status, has been recognised as a good honours-degree equivalent qualification by a number of bodies including, in 1958, the former Burnham Committee, which accepted it as having 'good honours-degree' status for the purposes of the Burnham Main and Technical Reports in relation to determining teachers' salary levels.

One of the concerns that dominates the debate about NVQs generally centres on the validity of the industry-led, outcomes-based model of qualification as an indicator of competence (for example, Barnett, 1994; Hyland, 1994; Smithers, 1997). On de-constructing the types of validity claimed for NVQs and competence-based education and training in general, Hyland (1994) has argued that the measurement of *predictive validity* (p39) as an indicator of how well an individual will perform in a future employment role is beset with problems. Moreover, he asserts that the narrow, skills-training approach, which characterises the NVQ "economic utility" model, impoverishes and de-humanises vocational education (p116) thus rendering the NVQ system as inappropriate for enhancing the status of the UK's vocational education and training and for upgrading the skills of its workforce. Certain employers and other individuals within the coloration industry and related academia, with whom the researcher has had professional contact, have also expressed reservations about the ultimate usefulness of NVQs in comparison with examination-orientated approaches. For instance, (echoing Smithers' (1997) evaluation), in relation to accrediting prior experiential learning (APEL) the question has been raised as to whether certification on this basis will actually raise the skills-base of the industry's workforce or whether, for political purposes, it merely papers a greater number of individuals with a qualification signifying what they already can do. Potentially, this issue has detrimental implications for the UK economy, not to mention the effect on the intrinsic value of the qualification to individuals. Moreover, it has often been argued within the professional body that employers are not always the best people to determine the structure and content of vocational programmes, mainly because of their tendency to focus on ways of satisfying their immediate business requirements rather than endowing their staff a with more generally applicable education. The narrow instrumentality of the NVQ system (Hyland, 1994) has been of particular concern to the researcher's professional body, which views broad-based knowledge and skills as essential to providing the wherewithal for individuals to develop to their full potential

and, in doing so, to contribute to the future well-being of their organisations through creativity, research and innovation.

With regard to the part-time BTEC programmes referred to above, colleges have always played a central role in organising and devising the programmes of study leading to these qualifications. It is likely that the potential displacement of the qualifications by NVQs and the shift in responsibility for determining the content of the standards to employers would radically change the function and distribution of power of college teaching staff. The ensuing disaffection and the damage to morale resulting from loss of professional autonomy and institutional responsibility, particularly within the wider teaching profession, are well-documented (for example, Ball, 1987; Ozga, 1988). Thus, the micropolitical climate created by this action is expected to be a significant factor in determining the successful implementation, or otherwise, of NVQs within the teaching establishments. However, with employers being designated as the vanguard of the new system, it would appear that the real determinant as to whether or not the qualifications achieve what the policy-makers intend depends on how they are perceived and accepted by industry and its training personnel whose perspectives constitute the central plank of this enquiry.

**RATIONALE FOR THE STUDY**

At the time of embarking on this research, the professional body's educational activities were firmly located in what could be described as the 'classical humanist' position (see Bates *et al,* 1998) in which there was a strong emphasis on subject content and the rigorous assessment of disciplinary knowledge. Yet in spite of the ostensibly large measure of support for the professional body to operate its own

examination system,[3] support was far from unanimous. There was always a minority, but significantly vociferous, body of people – mainly industry-based – that was highly critical of the courses leading to the Society's professional examinations, as well as of certain university degree courses, for being 'too academic' and not adequately meeting the needs of the industry. For example, at an earlier conference on the future of education for the coloration industry in the Northwest of England, there was a strongly supported view mooted by the local employers' association that the examinations, together with their preparatory courses, concentrated too heavily on the theoretical aspects of disciplinary knowledge; and that they should therefore be made more 'practical' with the industry itself being allowed to play a greater part in their design (SDC, 1987). Hence, the research proposal was, in part, formulated with this call for an institutional change in mind. The validity of the need for such a change and the types of changes seen as desirable was informed by exploring the industry's perceptions of currently available qualifications and by ascertaining employers' stated requirements from the education and training system. The findings are expected to help the universities/colleges and the professional body for the coloration industry to plan their respective course provisions more appropriately and effectively for the future. In addition, it is hoped that the findings will contribute to the wider debate on CBET as related to other sectors of employment.

**RESEARCH QUESTIONS**

The general issues above were delineated by the following research questions:–

[3] Support for this was not only evidenced by the numerous 'pro-examination' committee debates with which the researcher was involved but is also embodied in the statutes of the professional body's Royal Charter. Furthermore, an independent survey of the membership, which had been conducted some years earlier by a specialist consultancy, revealed overwhelming support for the professional body to continue to conduct its own examinations.

(i) How do employers in the coloration industry perceive the existing full- and part-time provision for education and training in coloration, particularly in terms of its future appropriateness to the industry and individuals?

(ii) In what areas, if any, would employers in the coloration industry like to see changes to the existing scheme (for example, in terms of curricular content, mode of delivery and assessment strategy)?

(iii) What are the attitudes of employers towards the adoption of a competence-based approach to higher-level qualifications in the industry?

(iv) In companies that have introduced NVQs at the lower levels, what are the perspectives of employers on these qualifications?

As indicated above, the coloration industry can be broadly divided into two distinct functional sectors: (a) chemical-based companies that manufacture colorants; colour-instrument manufacturers; and technical-service laboratories; and (b) companies that buy in these products and services in order to carry out the actual processes involved in colouring materials. However, the education and training system that is in place is one and the same for both sectors. Though this is of benefit to trainees in each sector as it provides them with a comprehensive knowledge of the entire industry, it is postulated that the former, more technical, sector is likely to support a more theoretical curriculum (e.g. one with a strong underpinning in chemistry and physics) whereas the latter sector may well prefer an emphasis to be given to the more technological aspects of coloration practice. This supposition (which is to be systematically explored within this research) is based on the researcher's serendipitous role as 'participant observer' in the various deliberations of both sides of the industry whilst employed by the industry professional body.

# Chapter 2

## REVIEW OF RELEVANT LITERATURE

**INTRODUCTION**

Up until the emergence of NVQs in the early 1990s, the central pivot around which part-time vocational education and training for the industry had been based were the qualifications conferred by nationally recognised awarding bodies, such as those referred to in Chapter 1. These were the principal qualification goals to which trainees aspired and were attained by following college-based programmes of study, which were funded by the former Department of Education and Science. Meanwhile, workplace training was the province of several non-statutory training organisations whose funding came mainly from the industry. Their role was essentially a non-academic one, focusing on the old craft apprenticeship approach of 'learning by doing' in the workplace (Fuller *et al,* 2005) with an element of off-the-job provision in areas such as health and safety and supervisory training.

The NCVQ was established towards the end of 1986. Its chairman and council members were appointed "in personal capacities" by the Secretary of State for Employment (NCVQ, 1986, p4); and, in line with the then government's stated aim of improving "the value of qualifications to employers" (Ward, 1990, p9), together with its desire for the NVQ model to be based on "employment-led standards of competence" (NCVQ, 1987, p6), it was unsurprising that the job of overseeing the introduction of the new qualifications into the coloration industry would be given to the relevant training organisations, which were seen as already having established links with

employers in this area. However, in view of the training bodies' pre-occupation with functional training directed mainly towards specific work-roles, this situation gave rise to concerns within the colleges and the associated professional body about the uncertainty of the position of underpinning knowledge in NVQs. Therefore, one of the primary intentions of this literature survey has been to bring together the wider, and often competing, perspectives held by other bodies on this issue and to learn from them what, in general, they feel constitutes useful qualifications in terms of raising the skills levels of the UK industry's workforce.

The following section provides a summary of the main relevant themes identified from the literature, which are then examined in more detail under appropriate headings:–

On the issue of take-up of NVQs, the discussion begins with a brief overview of the political and economic context into which they were introduced and employers' reaction to what was evidently the government's 'hard-sell' of the NVQ model to the industry. The official documentation was beguiling in terms of accentuating the economic benefits of the qualifications; however, the more humanistic elements have remained much more elusive. The apparent neglect of the latter and the emphasis placed on instrumental aspects prompted a renewal of earlier discourses that had taken place within VET, which centred on liberal–humanist versus economic–instrumentalist ideologies. As the developing analysis of the literature indicates, many of the criticisms of the NVQ model stem from the way in which the economic imperative, coupled with behavioural psychology, dominate competence-based approaches to training.

In exploring these issues, the literature exposes a major flaw in political thinking in relation to the way in which the NVQ standards have been devised and delivered. Policy in this area was predicated on the mistaken belief of successive governments

in UK employers' wholehearted willingness to engage with the vocational education and training system. This view has been met with scepticism and criticism as is revealed by several studies that illustrate the historic failure of employers to give adequate support for vocational education and training, either financially or institutionally.

Much has been written in relation to the competing claims for the position of knowledge in NVQs and particularly how knowledge and the opportunities for acquiring knowledge have been marginalised within the competence-based model. Supporters of the NVQ system maintain that only knowledge that contributes directly to performance in the workplace is relevant and dismiss those who advocate the value of that gained by more progressivist or humanist approaches. In contrast with the latter, there has been much less discussion amongst proponents of NVQs about the concept of competence in NVQs, perhaps partly because the realisation of an absolute definition of the concept has tended to elude writers on the subject.

The discussion then moves to a consideration of how NVQs have been used in practice in such training schemes as Modern Apprenticeships. Ryan and Unwin's (2001) study brings into sharp relief the extent of the paucity of Modern Apprenticeships, both in educational and training terms, and how this situation has not been helped by linking the schemes to the NVQ framework.

Taking further the question of the implementation of NVQs, the remainder of the chapter is concerned with how their introduction has affected current arrangements for VET, particularly in relation to their perceived status vis-à-vis examination-based vocational qualifications and also the implications for teaching staff and students in the post-compulsory sector.

One of the claimed benefits made for their introduction was that they would provide for formal training and qualifications in situations where hitherto these had not existed. As will be seen, the findings of this research indicate that there has indeed been a dual benefit for employers and their employees in this respect, albeit exclusively among unskilled and semi-skilled sections of the workforce in which training had been non-existent or, at best, sporadic. However, the belief that the qualifications would allow vocational and academic qualifications to be considered on equal terms has not come to fruition and, if anything, they are seen to reinforce the schism between the two types. The general problem of according equal status to vocational training and academic study appears to be an intractable one, and one which the recent working group on 14–19 reform headed by Mike Tomlinson (DfES, 2004) has recognised but has failed to resolve effectively. The chapter concludes with a look at some of the implications of the introduction of NVQs for the post-compulsory sector. Attention has already been drawn (Chapter 1) to the potential effect on staff morale and motivation. Earlier studies predicted the way in which colleges would need to adopt a more market-orientated ethos to accommodate changes to their design and delivery of courses and to establish closer working relationships with private and commercial organisations for this to take place. Some research has indicated that this has been successful – opening up new opportunities both for students and staff. However, accompanying these benefits, a number of commentators have drawn attention to operational problems and disaffection within staff and student populations.

Each of the above issues is now considered in more detail.

**OVERVIEW OF THE INTRODUCTION OF NVQS**

The concern about Britain's education and training system for allegedly failing to prepare young people for employment is not a recent issue: indeed, as far back as the 1850s, Lyon Playfair, a former member of parliament, had expressed the view that the lack of a sound system of industrial education was bringing about the country's decline in industrial performance with respect to its European competitors (Keep & Mayhew, 1988). Similar views have continued to dominate both political and economic thinking, which has resulted in their attaining a high position on political agendas, particularly over the last three decades, fuelled by former Labour Prime Minister James Callaghan's Ruskin College speech of 1976, which linked alleged shortcomings in the country's education system to industrial decline and the general down-turn in the economy. The ensuing 'Great Debate' led to a succession of government-conceived initiatives designed to ensure that employers could legitimately exert greater control over setting the agenda for education and training (Bates *et al,* 1984; Keep & Mayhew, 1988; Bates *et al,* 1998). It was in this political and economic climate that the so-called 'competence movement' (Bates *et al,* 1998) in the education sector was allowed to develop and flourish.

One strand of government policy in this area that has found itself to be somewhat at odds with employers' traditional beliefs about, and attitudes towards, the post-compulsory education and training system was the establishment, in 1986, of the National Council for Vocational Qualifications (NCVQ) and its subsequent introduction of competence-based education and training in the guise of National Vocational Qualifications (NVQs). Ignorance of and misunderstandings about NVQs has been manifest within certain employment sectors – a view earlier encapsulated by Unwin (1990a), who maintained that employers

"feel safer with the sort of qualifications they took at night-school or as apprentices, and find the concept of competence-based qualifications difficult to contemplate,

even though, ironically, they are being introduced as employment-led initiatives" (p251).

Not only does this reveal a lack of understanding about NVQs among employers, but it is also an indication that it was not they, but government agencies, that were driving the competence-led revolution. In fact, six years later, Senker (1996) noted that there was little evidence of employer acceptance of NVQs, especially among small- and medium-sized companies; and that few employers or employees had confidence in them. More recently, Hyland concluded from a 1997 DfEE study (which showed that instead of the three to four million awards of NVQs expected, the actual number by the end of 1997 was fewer than two million) that the "take-up of NVQs/SVQs is still low nationally compared with other vocational qualifications" (1999, p81). One possible reason for this over-estimation was revealed by Hyland's investigation into the training policies of some of the larger national companies (including British Home Stores, Burtons, and the Conran Catering Group), which revealed that while a lot of these organisations had initially opted for the NVQ route to training, many had subsequently abandoned this approach in favour of their own in-house schemes. However, to Hyland's mind, the low take-up is an indication that the NVQ system has "failed", but that the NCVQ "managed to hide this failure for years through exaggerated and massaged figures" (1999, p81).

Even so, NCVQ's successor, the Qualifications and Curriculum Authority (QCA) has defended its position claiming that many employers are now beginning to feel more comfortable with the new awards and – if the rhetoric is to be believed – actually seem to be embracing them. For example, commenting on the award of the two millionth NVQ in the autumn of 1998, the QCA's chief executive at that time, Dr Nick Tate, proclaimed:

"This accelerating rate of take-up is powerful evidence of the growing reputation of NVQs with candidates and their employers, who appreciate both their flexibility and their rigour" (QCA, 1998, p1).

However, more recent figures provided by the QCA showed that, in the following year, take-up was down by 3% on the 1998 total (QCA, 2000). Furthermore, in relation to Modern Apprenticeship schemes, which are orientated towards the acquisition of a work-based NVQ, Ryan and Unwin have reported that "rates of qualification and completion remain low" (2001, p111); and in fact, with regard to participation in vocational programmes generally, it has been demonstrated that the UK lags well behind in international league tables (DfES, 2004).

**Comment [M1]:** Check for more recent figures.

One of the concerns that dominates the debate about NVQs centres on the validity of the industry-led, outcomes-based model of qualification as an indicator of competence. As mentioned earlier (Chapter 1) certain commentators have expressed doubt about the academic and intrinsic worth of the latter with respect to more traditional, knowledge-led approaches, particularly with respect to the concept of APEL. By contrast, the official line emphasises the instrumental value of competence-based training to the economy claiming that NVQs help employers to identify such company-related benefits as training targets, selecting the 'right staff', improving company performance (NCVQ, 1990) and this remained the predominant theme of the documentation promulgated by government departments over the years. For example, the former Conservative administration extolled the advantages of NVQs to employers in terms of improvements to organisational effectiveness, competitiveness in the market place and in management, and in helping to clarify recruitment, training and promotion policies (Employment Department, 1995).

**Comment [M2]:** Check page number.

The value given to what is economically useful in education (the *economic–instrumentalist* view) to the detriment of those aims of education which emphasise

personal and social development (the *liberal–humanist* view) is a key to understanding the polemic that exists in the literature on NVQs. Hence, it is to that aspect that the study now turns.

**THE ECONOMIC–INSTRUMENTALIST VERSUS THE LIBERAL–HUMANIST DEBATE**

Although a detailed discussion on the philosophical distinctions between the above concepts is outside the scope of this review, it is nevertheless important to note that there have been profound reservations concerning the increasing demands made by successive governments and employers for incorporating a more strongly instrumental element into the country's education and training system. This has been particularly in evidence at secondary and tertiary levels through various attempts to *vocationalise* the curriculum with the aim of increasing its value to the economy through the teaching of employment-related skills and the fostering of 'appropriate' attitudes to work (Bailey, 1984; Bates *et al,* 1984; Bates *et al,* 1998).

Thus persuaded by the deliberations set in train by the 1976 'Great Debate' referred to above, many politicians and employers eschewed the value of liberal approaches to education – which had tended to flourish in the more progressive curricula of the primary sector where there was less concern with the academic and vocational imperatives of education (Bates *et al,* 1998) – in favour of a system that emphasized education's contribution to the economy. This is evinced by the various allegations (noted by Bailey, and which are still prevalent today within government and industry) that "the education system [is] out of touch with the fundamental need for Britain to survive economically in a highly competitive world through the efficiency of its industry and commerce" (Bailey, 1984, p169).

**Comment [M3]:** Check page number.

In the context of both NVQs and GNVQs, Owen (1995) believes the competence-based grounding of these qualifications holds the key to the UK's economic salvation:

> " ... this approach to the long-standing crisis in the education and training systems in this country is essential if we are to remain as an advanced industrial society in an era of global capitalist markets. ... Without such a system, we would rapidly become a relatively poor and degraded country " (p137).

Owen's own ideological position on the purpose of education is then clearly one that reflects the economic imperative. His support of NVQs derives from the thesis that the hegemony of professionals over vocational education has resulted in an elitist education system, which caters only for a minority of academically privileged individuals. He claims that whilst this situation sufficed to sustain innovation and progress at the time when Britain was establishing itself as an industrial economy, today's global market requires that the country harnesses everyone's abilities — academic or otherwise. His views are premised in the belief that the NVQ system, through its support of open access, recognition of prior experience, and its potential to by-pass formal teaching, makes participation in the country's post-compulsory education and training system a more likely possibility for everyone and not just those capable of pursuing formal educational courses. Even so, Owen acknowledges the potential problems associated with an employer-led system such as short-termism; reluctance to invest significantly in training; narrow, company-specific content, and so on. Owen is nevertheless adamant that vocational education should reflect occupational competence, and should certainly not back-track "to a system that we know doesn't work for the vast majority of our needs" (p141).

Commenting on the dualistic and potentially divisive nature of the 'new vocationalism' [4] in the context of the school curriculum, Bates argues that the pursuit

[4] This term (first used by Bates *et al,* 1984) refers to the series of projects and initiatives introduced following the 'Great Debate' that were designed to strengthen the links between schools and industry and also to make the school curriculum – particularly the 14–18 provision – more vocationally relevant.

of an education that contributes to “the development of critical consciousness and social change” Bates, 1984, p213) is a worthwhile aim if the creation of an intellectually disadvantaged underclass of less-able students is to be avoided. The dangers of importing such an underclass from school into the workplace are also of concern to a number of other researchers. Many critics of the NVQ system, one of the more vociferous of whom is Terry Hyland, have argued vehemently against its introduction. Hyland (1994) has maintained that NVQs and competence-based approaches are in fact “fundamentally flawed, disastrously misguided and entirely inappropriate to our current and future education and training needs” (p.ix). He asserts that the narrow, skills-training approach of the NCVQ’s “economic utility” model, which dispenses with the more pervasive, generally applicable principles of the “liberal” educational model, impoverishes and de-humanises vocational education (p116). Other commentators have attacked the weakness of the NVQ system in respect of its tendency to subordinate the application of a broad knowledge and understanding in favour of procedural functions for serving economic ends. Thus, instead of allowing individuals to exercise their personal judgement and critical reflection in their work – the generally accepted tenets of true educational value (Dearden, 1984) – all that is required of them is that they execute fragmented and routinised tasks in a mechanistic fashion, with habitual performance being measured against a set of external standards (Barnett, 1994). This top-down, efficiency-driven, approach to work organisation has been shown to have negative implications for staff morale and motivation (Murray, 1989; Hodkinson, 1995). Perhaps more significant is the danger of an ambivalence arising between, on the one hand, the ‘Tayloristic’ [5] design features of NVQs (with their emphasis on breaking down job functions into

[5] Named after the pioneer of ‘scientific management’, Frederick Taylor, *Taylorism* embodies a number of managerial techniques and controls designed to increase efficiency in the workplace. Essentially, it involves breaking down jobs into their elementary tasks and separating those members of the workforce responsible for conceiving and organising the work (management) from those responsible for doing it (operatives). (Morgan, 1986)

elements of competence and their rigid occupational specificity) and, on the other, the requirement in what is purported (at least rhetorically) to be the current post-Fordist economic climate (Murray, 1989) for increased multi-skilling, creativity and team-organisation within the workplace. Thus, the whole fundamental NVQ philosophy appears to fly in the face of those who advocate the (re-)organisation of work processes on post-Fordist lines. The resulting position is encapsulated by Gokulsing *et al's,* observation that "The loss of Fordism in one area of society may therefore be compensated for by its re-emergence in another" (1996, p31).

More recently, in his foreword to the *Learning Age* Green Paper, the former Secretary of State for Education and Employment, David Blunkett, unambiguously lends strong support to the liberal education principle of "the value of learning for its own sake" (DfEE, 1998, p7). Regrettably, his 'vision' is at odds with the tenor of the body of the document with its emphasis on the economic imperative being, as it is, shot through with references to the value of education and training for the enhancement of the country's economic prosperity. Whilst it is undeniably a laudable aim for any education and training programme to make some contribution – either directly or indirectly – to the economy (in fact some theorists would argue that it was a necessity given the correspondence between curriculum planning and socio-economic considerations [Hyland, 1994]), certain analysts (for example, Barnett, 1994) have shown that, organised in a *purely* instrumental way, training programmes can inhibit individuals' intrinsic development as well as their motivation. Hence, the value of adopting a more liberal approach is that it allows individuals not merely to be subjects of the passive accumulation of facts or a set of instructions, but gives scope for them to engage in 'critical reflection' and to exercise their 'autonomy of judgement' (Dearden, 1984). Developed in this tradition, programmes of education and training supply a cognitive underpinning to individuals' practical skills which (according to Bailey, 1984) is an essential feature of true vocational competency. This view has

led some commentators towards a position of *détente*. For example, Graham Debling, in his earlier capacity of Head of the Standard Methodology Unit at the former Training Agency and a strong advocate of the NVQ model, conceded that "competence is more than the performance of isolated tasks or the application of the relevant technical skills" (Debling, 1991, p12). He further acknowledged that the latter are not, in isolation, the key to economic success, and thus proposed a combination of the NCVQ model with "the best of traditional education" as being a more effective approach (p7). Other possible ways forward are identified by Stewart and Hamlin (cited in Brady, 1995) who, whilst acknowledging that there are shortcomings in the current VET system, point out that competence-based approaches are not the only potential remedy; and that Higher Education and other sectors have introduced alternative modes of assessment to examinations, together with other policies designed to increase access without recourse to NVQs or other competence-based routes.

**THE BEHAVIOURAL OBJECTIVES PERSPECTIVE ON NVQs**

Coterminous with the arguments concerning the basis on which education and training should be organised are debates relating to the bearing that behavioural psychology has had on the structure of competence-based programmes.

Many researchers (Hyland, 1994; Bates, 1998; and others) have illustrated how the NVQ framework was inspired by, and has its roots in, behaviourist learning theory (though, as discussed later, a claim that Burke (1995) has challenged at some length). Although behavioural objectives have been claimed to be central to competence-based approaches (Bates, 1995), they have increasingly lost credibility in many educational circles (Reid, Hopkins & Holly, 1987; Elliott, 1998) . Criticisms of the approach are not dissimilar from those voiced against the utilitarian economic

forms of learning in so much as it side-steps the main thrust of the liberal principle of "the need for education to treat learning as a creative process in which the outcomes are to some extent unpredictable" (Bates, 1998, p32) and, instead, treats learners as 'passive recipients of instructions' (Dearden, 1984).

Eraut (1994) has highlighted some of the deficiencies of the behaviourist model of competence: whilst readily accepting the value of practical application and experience as contributing to professional knowledge, there is a danger that non-cognitive professional practices may inhibit professional intuition and thinking, thus allowing underpinning knowledge to be consigned to the unconscious mind. Like Dearden above and others, Eraut attaches a great deal of importance to the need to constantly engage in the 'deliberation' of one's professional *modus operandi* – thereby assuming the qualities of Schon's (1983) 'reflective practitioner'– and to continually review and update one's knowledge in order to inform future actions.

Whilst Reid *et al* (1987) pay tribute to the usefulness of the objectives model for practices such as rote learning and in the teaching of basic skills,[6] the model is deemed to be less effective – counter-productive even – for more complex and sophisticated curricular areas. Those dissatisfied with the behavioural objectives approach maintain that it leads to "serious restrictions on the autonomy of both teachers and pupils in the educational process and ... to constraints on the development of the curriculum ... " (Kelly, cited in Burke, 1995, p69). It reduces, for example, "the study of history to a series of dates, or geography to a recitation of capes and bays" (Reid, Hopkins and Holly, 1987, p116). Thus, the approach is guilty – in Dearden's (1984) words – "of ignoring the understanding, which accompanies, and indeed importantly constitutes, human behaviour" (cited in Hyland, 1994, p51).

[6] Because of its apparent rationality and simplicity, the objectives model continues to be highly attractive to many policy-makers ('curriculum bureaucrats') and even among some practitioners (Yeomans, D J, University of Leeds, private communication, July 2000).

As already indicated, Burke rejects the view that the NVQ model as promoted by Jessup (1991) is behaviourist in its intent; instead, he posits that it has the potential of "liberating and empowering the individual rather than controlling or merely modifying behaviour" (Burke, 1995, p67) through its recognition of learner differences, preferences and choice. In this sense, Burke seems to be claiming that the competence-based model has more in common with progressive, rather than behaviourist, approaches. Though Burke is possibly over-stating the case for the progressive potential of competence-based approaches, what the denouncement of the behavioural outcomes model of NVQs has achieved (according to some commentators) is an opening up of the debate on what constitutes effective teaching and learning as located in the tradition of progressivism (Bates, 1998).

**IMPLICATIONS OF UK EMPLOYERS' POOR RECORD ON VET**

Clearly, the introduction of the NVQ system has evoked numerous debates about the actual purposes of education and training. As noted earlier, one significant strand of those debates relates to the extent to which employers value education and training, coupled with their commitment to, and the extent and nature of, their requirements for such in the workplace. Consequently, this situation is likely to have implications for the extent to which they are willing and able to engage in the design of NVQs.

Coffield (1990) has referred to "the historic failure and the continuing complacency of most British employers in relation to training" (p71). The wider literature identifies a number of underlying reasons for these shortcomings: the more significant being employers' general reluctance to invest in the education and training of their workforce, and the limited value often given to qualifications by employers. Finegold and Soskice (1988) have argued that Britain's failure to educate and train its workforce to the same levels as its European counterparts has been due, in no small part, to employers not committing sufficient expenditure to training needs. The

apparent unwillingness to invest in this area can be attributed to a number of factors: for example, many industries (particularly older industries) have viewed expenditure on training as an operating expense to be pruned when the company falls on hard times. Furthermore, there has always been an indifference shown by some employers to the tenets of human capital theory[7] as a means whereby the productive capacity of individuals – and hence the economic return provided by them – can be increased (Woodhall, 1991). Thus, many see paying for training simply resulting in a personal benefit to the individual, which can be subsequently exploited, at the organisation's expense, by other, 'free-loading' companies (Finegold & Soskice, 1998). As Woodhall points out, critics of human capital theory maintain that education *per se* does not necessarily increase an individual's productive capacity, although it may well be an indirect measure of an innate ability or other employer-valued personal traits, such as "attitudes towards authority, punctuality, or motivation" (Woodhall, 1991, p32), which can function as mediating factors in relation to performance. As reported by other commentators (for example, Bates *et al,* 1984; Moore, 1988) in many employers' eyes, paper qualifications play only a partial role in their recruitment practices. They "tend to have only the vaguest notions as to what particular qualifications entail or imply" (Moore, 1988, p206) and, consequently, preference is often given to those people who can demonstrate non-educational, employer-specific criteria such as "the right attitudes to work" (Bates, 1984). Twenty years on, imbuing young people with the "right attitude" towards work is still regarded as a key feature of the "employability skills" needed to satisfy employer requirements (DfES, 2004, p13).

[7] Put simply, human capital theory likens investment in a person's acquisition of knowledge and skills as being tantamount to investment in capital goods in that, ostensibly, it results in the betterment of products and services.

Given many UK employers' indifference towards the vocational development of their staff, it is not surprising then that Keep and Mayhew's (1994) research has led them to conclude that "policy which relies on employers to achieve a fundamental transformation of the skill-base is likely to be of limited effectiveness" (p336). Therefore, in view of the demise of some of the more significant employer-influenced initiatives that have been introduced within the last few decades[8], it seems somewhat incongruous that any government should entrust employers with the responsibility for the future of what is to all intents and purposes the most radical overhaul of the country's education and training system. It is therefore understandable that the government's insistence on instigating an employer-driven NVQ system has been viewed with a degree of scepticism by commentators such as Field (1995), who observes that the decision can be traced back to "a highly selective coalition" (p40) of civil servants and various political interest groups (i.e. the 1986 Review of Qualifications Group) whose chief aim in reforming the existing vocational qualifications system was "to provide a visible response to poor economic performance and the associated public criticisms of the British training system" (p42). Yet the rhetoric promulgated by the 1988 White Paper, *Employment for the 1990s,* was still firm in its commitment to ensuring that the new occupational standards "must be identified by employers" (Debling, 1991, p6) (albeit that government departments retained responsibility for their design). Furthermore, representatives of the former Department of Employment were equally set in their resolve that NVQs would serve the immediate and long-term needs of industry (Debling, 1991).

The rallying call for employers to play a much greater part in VET design and delivery seems to be unremitting. In its report on the proposals for streamlining the 14–19

[8] For example: the Industrial Training Boards were dismantled after only seventeen years of life; the Youth Training Scheme proved futile and foundered within seven years; and subsequently, after only ten years in existence, the death-knell was sounded for the Training and Enterprise Councils.

curriculum, the government's working group stresses the need for employers to help shape, or at least sign up to, the proposals for 'strengthening' the vocational learning element of the proposed 'diploma' framework (DfES, 2004). In fact, the whole report is awash with references to the primacy for 'employer involvement' and the importance of satisfying 'employer needs'. With regard to the latter, it is pledged to raise literacy and numeracy standards among young people (the need of which has been a concern in some employment sectors). However, one of employers' main functions is seen as helping to identify economic needs and advising on how the proposed new system will address these.

Whilst it is obviously not the case that all UK companies are failing in their provision for the training development of their staff, there is evidence of a general reluctance to commit resources to schemes of vocational education and training that provide for longer-term staff development. Research has revealed that many organisations prefer instead to limit their training to that which readily satisfies their immediate business needs (Coffield, 1990). The drawback here is that there is a strong likelihood that some companies may simply buy into the job-contextual components of an NVQ programme as a means of gaining a 'quick fix' for their short-term training requirements. As Raggatt (1991) points out, the modular structure of NVQs facilitates – and thus may well exacerbate – this tendency, with limited-resourced small- and medium-sized enterprises in particular being attracted to the selective use of NVQ units, discarding the broader elements. Such a situation would inevitably have adverse consequences for the country's vocational well-being, paring down still further the educational component of what is already seen as being educationally deplete. The same problem was to some extent anticipated by Gilbert Jessup (the former Director of Research, Development and Information at the NCVQ and a principal architect of the NVQ model) who, in his discussion on the issue of breadth in NVQs, commented thus:

"There are those who argue [that] we must take a strategic view, and use the training and qualification system to shape the future. But others are, understandably, concerned with more immediate needs and do not yet share the long-term view" (Jessup, 1991, p30).

In the light of the indifference shown by employers towards the country's VET system, being, as they are, more pre-occupied with their employees' personal character traits and with securing the 'bottom line', it is reasonable to expect that they would be even less supportive of those critics, like Hyland, who have called for "a broadening of the general educational base, rather than a narrow concentration on occupationally-specific skills" (Hyland, 1994, p83). Moreover, in view of what has been noted earlier regarding employers' reluctance to invest in an external training system that they perceive would result in the increased 'marketability' of their employees, it would be difficult to persuade them to support the provision of employee-transferable, generalised educational skills. However, the primary concern of educationalists in this respect has not been so much with how to address the short-term, instrumentalist thinking of employers, but rather with ensuring that the long-term needs of young people with a lifetime of work ahead are secured through the provision of a sound general education underpinned by "a solid theoretical foundation and breadth of knowledge" (Hyland, 1994, p84). The following section therefore examines some of the arguments that have been mooted on the function of knowledge in competence-based educational and training.

**THE POSITION OF KNOWLEDGE IN NVQs**

The importance of theoretical knowledge and its apparent marginalisation within the NVQ framework has been pivotal to numerous debates on NVQs within educational circles (e.g. Jarvis & Prais, 1989; Jessup, 1991; Raggatt, 1991; Hyland, 1994; Smithers, 1997).

Being overtly instrumentalist in his view, Jessup (1991) is adamant that the inculcation and assessment of knowledge should not be regarded as an end in itself:

"Within a competence-based model of qualifications, there is no justification for assessing knowledge for its own sake, but only for its contribution to competent performance" (p123).

His view is that it should serve the dual purpose of expediting competent performance in a particular situation while, at the same time, facilitating the application of practical skills to other occupational situations.

Clearly, this subscription to the economic imperative of learning is totally abhorrent to those who see the value of a liberal education as being more than "a purely intellectual affair", but rather as the key to "the free development of understanding" (Dearden, 1984, p64). As indicated earlier, it has also been argued that the confinement of learning to its vocational context may well handicap a workforce that is increasingly being obliged to exercise its critical and creative thinking in those sectors of industry whose practices are located in what is alleged to be the UK's burgeoning post-Fordist economy. Equally worrying is Jarvis and Prais' claim that a marginalisation of technical and general education, will ultimately "lead to a certificated , semi-literate underclass – a section of the workforce inhibited in job flexibility, and inhibited in the possibilities of progression" (1989, p319).

Jessup himself concedes that such predicaments can probably only be resolved by maintaining separate procedures for assessing performance and more broadly-based knowledge – a similar proposal having earlier been mooted by Debling above. This bilateral arrangement is one that the professional organisation with which the researcher is associated – and, no doubt, many other professional bodies – would subscribe to in relation to its own requirements wherein professional experience

forms an essential part of the *non*-academic assessment criteria.[9] Whilst it would be difficult to disagree with Jessup's views about the importance of ensuring that practitioners are able to "draw upon and relate the relevant aspects of knowledge when presented with problems and situations in their professional or occupational role" (Jessup, 1991, p126), his assertion that the only requirement is for knowledge that is "directly relevant to performance in an occupational or professional area" (p28) is less convincing. Jessup appears to be making the assumption here that all tasks are highly regularised and unproblematic, when clearly they are not. Moreover, although it is recognized that only a small part of the entire 'body of knowledge' associated with a particular work role is drawn upon in practice, what is not clear is how an individual can be in a position to judge which aspects are relevant (in effect, what should be retained, modified or discarded) unless he or she has become a recipient of that 'body of knowledge' gained in what has come to be regarded as the preferred "experiential tradition" embracing perspectives from cognitive and humanistic psychology (Hyland, 1994, p53; Eraut, 2004). In any event, Jessup's suggestion for an approach to knowledge acquisition for NVQs, based on drawing on a bank of directly applicable facts, is unlikely to satisfy supporters of more liberal approaches.

Growing concerns of this nature about the shortcomings in the NVQ system, the debate about which, since its 1986 inception, had largely been confined to academic circles, were brought into the public domain by Professor Alan Smithers in his 1993 televised exposé *All Our Futures: Britain's Education Revolution* in which he presented a scathing attack on the competence movement in general and on NVQs in particular. As McKenzie and Oliver's (1995) review of the programme concluded,

[9] The Association of Accounting Technicians set a precedent for professional bodies when, in 1993, it converted its professional qualification into an NVQ whilst, at the same time, persuading the NCVQ to let it retain a written examination to test students' knowledge of accountancy theory (Evans, 1993).

the NCVQ failed to convince critics that its qualifications possessed a sufficiently robust and coherent knowledge-base to satisfy all practical requirements and situations. The authors demonstrated their concerns by reference to prescribed NVQ units, being especially unhappy about the implicitness and lack of clarity about the way in which an individual is expected to acquire and demonstrate knowledge and understanding, which is often disaggregated and left to the assessor's discretion during the actual assessment process. With regard to the tenuous nature of this aspect they point out that

> " ... traditionally, a large part of education has been involved in making the implicit, 'explicit'. That is, it has required of people that they put into words their reasons for doing those things which they might do more or less automatically ..." (p57).

In a sense, McKenzie and Oliver are underlining the need for learning goals to be made more visible and less habitual. In a similar vein, Dearden (1984) maintains that learning should contribute to a person's work role by imbuing the need for 'critical reflection' and 'autonomy of judgement', and not merely the requirement to execute it in a robotic, unthinking manner.

Many of the deliberations between stakeholders to date concerning the position of knowledge in vocational programmes have tended to make the assumption that approaches to all knowledge – whether theoretical knowledge or tacit workplace knowledge – are one and the same. However, a number of analyses of vocational knowledge (for example those conducted by Schon, 1983; Lave & Wenger, 1991; Eraut, 2004; Young, 2004) have shown this to be an over-simplistic and misguided view. Drawing on the work of the latter two analysts, it can be seen that the failure to take account of the epistemological and cognitive aspects of approaches to knowledge makes any consideration of how theoretical knowledge can gainfully articulate with workplace practices (and vice-versa) meaningless.

For Young, the main problem lies in people's unwillingness or inability to recognise that learning acquired off the job (i.e. discipline-based knowledge associated with the college curriculum) is epistemologically different from the tacit and experiential learning that takes place in the workplace, the consequence of which is that there is no automatic transfer between the two types. Drawing on the work of Bernstein (2000), Young shows how the failure to recognise this distinction presents difficulties for educators as well as policy-makers. The underlying problem is explicated by Bernstein's concept of *re-contextualisation:* what Bernstein refers to as learning derived from a *horizontal knowledge* structure (i.e. that embodying experiential and tacit learning) cannot generate *vertical knowledge* (which equates to the theoretical knowledge acquired, for example, through the college curriculum) (Young, 2004, p196). Conversely, vertical knowledge cannot readily be articulated to address immediate practical problems of the workplace. In essence, the two approaches to acquiring knowledge emerge as being epistemologically incompatible. Young sums up the situation thus:

"… one kind of knowledge (vertical) cannot be derived from the other (horizontal). The horizontal or tacit cannot be made explicit because of its tacitness and immediacy in relation to everyday or working life that give it its power and purpose. Similarly, it is not possible to apply vertical knowledge directly to specific everyday workplace problems where the knowledge needed is that which is sufficiently flexible to deal with immediate practical problems" (p196).

This challenges attempts to provide *connective approaches* (Young, 2004, p186) between knowledge-led curricula and NVQs, for example through the introduction of standards-based Technical Certificates or of establishing 'parity of esteem' between knowledge-based and standards-based qualifications (both aspects which are discussed later in this chapter). Furthermore, it may, in part, explain why the findings of my own research (discussed in Chapter 5) have exposed the apparent inability of newly-qualified graduates to readily apply their theoretical knowledge to practical situations in the workplace.

Like Young above, Eraut (2004) also makes a distinction between the type of knowledge gained in formal (e.g. college) settings and that acquired in the workplace. However, in contrast to Young, Eraut's concern is not so much with the epistemological implications of attempting to generate one form from the other, but more with the cognitive difficulties in transferring academic knowledge to occupational practice. Not only does the magnitude of the tacit knowledge needed to make this transfer pose considerable difficulties, but the transfer process itself is far from straightforward, being dependent on context, culture and mode of learning.

Again, the tendency for vocational programmes to overlook these complexities, compounded by qualifications frameworks that separate theory from practice, also work against the establishment of Young's (2004) idea of *connective approaches* discussed above. Moreover, Eraut's research has led him to question whether, in fact, the kinds of knowledge provided by many vocational and professional education programmes (specially off-the-job theoretical knowledge and practical skills) are readily transferable, despite claims supporting that position. This is not helped by the inevitability, over time, for the knowledge content of such programmes to become less relevant to workplace practice (what Young above has referred to as *academic drift* (2004, p191). As Eraut explains: vocational programmes typically include three types of knowledge content deriving from (i) general education, (ii) the applied field and (iii) from occupational practice itself. The recruitment of teachers with little or no work experience, together with the increasing dominance of academic knowledge through research and publications, attenuates that knowledge which is derived from personal experience and occupational practice. As referred to in Chapter 5, these issues raise important considerations concerning the limitations of what the college-based vocational education system is capable of providing for industry.

**THE CONCEPT OF COMPETENCE IN NVQs**

In contrast with the abundance of literature on the part played by theoretical knowledge in competence-based education and training, there has been limited academic debate on the nature and role of competence (Bates, 1998).

Whilst many authors have been reluctant to attempt to delineate precisely what constitutes competence, an array of definitions is offered by the literature on NVQs. Most analysts, however, recognise the problematic nature of attempting to conceptualise the term (for example, Ashworth & Saxton, 1990; Brady, 1995; Hyland, 1995). Ashworth & Saxton's extensive analysis has concluded that the term is used incoherently and over-simplistically, failing to take account of all types of human behaviour or mental activity. This, they claim, has resulted in competence statements for education and training that are "empty and uninformative" (1990, p3). Brady (1995) has proposed that competence cannot be thought of in an absolute sense – only in terms of varying degrees. Thus, in practice, individuals are deemed to be either 'highly competent', 'fairly competent', 'totally incompetent', and so on. This is in direct contrast with the NCVQ's black-and-white view, which (according to a report submitted to the DfEE by the Association of Colleges) promotes competence as "an absolute: either an individual is competent or they are not yet competent" (AoC, 1997, para 19). Like Ashworth and Saxton above, the Association of Colleges sees this apparent lack of willingness to recognise varying degrees of competence as a "dilemma", which makes the formulation of meaningful design criteria difficult, especially for the higher-level NVQs.

Jessup, who has championed 'competence' as the heart of the NVQ framework, maintains that being competent means that "there is no scope for 'second best' standards" (1991, p25, Jessup's quotes). This seems to imply that 'competence' is somehow synonymous with 'perfection'. Yet, in his subsequent account of *skills*

*transfer* (p122), he cites the driving test as an example of an assessment situation wherein anyone demonstrating competence can be awarded a 'certificate of competence' (i.e. a license). The point being made here is that there is a gradation of performance in the latter test: a person may demonstrate a highly-competent or merely an adequately-competent performance, but in both cases will still be deemed competent to drive. Hyland also takes Jessup to task on this issue: he finds his defence of an absolute standard of competence unconvincing, though inevitable in the light of NCVQ's specification of competence according to job functions rather than superior performance traits, a state of affairs that has led to a "lower-order kind of concept" (1994, p20) of competence. Where there does appear to be scope for a convergence of views between the two, however, is with respect to Jessup's expansion of the notion of competence to accommodate knowledge and understanding alongside "a repertoire of skills" (1994, p26) – a "tacit acknowledgement of the inadequacies of the early programme-based CBET schemes…" in Hyland's view (1994, p24). Any prospect of a *rapprochement* between them however was never likely to materialise in the light of Jessup's doggedness in limiting the knowledge component in NVQs to that which is directly relevant to underpinning performance.

**NVQs AND THE MODERN APPRENTICESHIP SCHEME**

One response to criticisms about the 'educational paucity' of NVQs has been the development of Modern Apprenticeships whose purpose is to provide a much broader framework of training than could be expected from NVQs alone.

The Modern Apprenticeship framework was introduced in 1994 as a successor to the former government's Youth Training (YT) programme and, like YT, is designed to expand work-based training among young people (Ryan & Unwin, 2001). A central plank of the framework for what are now designated as *Advanced Modern*

*Apprenticeships* is the acquisition of a work-based NVQ at Level 3, or higher. (A lower level programme linked to Level 2 NVQs, and now designated as *Foundation Modern Apprenticeships* was introduced subsequently.) The centrality of the orientation of the scheme towards an NVQ, with its "emphasis on practical skills rather than technical understanding," makes it, in Ryan and Unwin's opinion, educationally "weak" (2001, p104). Even the added requirement for an element of off-the-job training is deemed to be a dubious palliative as employers can ostensibly subvert this obligation by allocating the trainee to work in another department or by simply ignoring it altogether (Ryan & Unwin, 2001).

With continued concern about these potential flaws in the system, it became clear that some other measure was needed to ensure the provision of 'broadening' via underpinning knowledge and understanding, especially at the higher level. The NCVQ had earlier introduced the concept of what was termed a *Related Vocational Qualification (RVQ),* but no significant development work was undertaken at that time. The development of a variation on the latter – *Vocational Related Qualifications (VRQs)* – similarly lacked progress (Channon, 2000). However, the notion of VRQs was later re-worked and, with the support of the National Skills Task Force, the qualifications were subsequently endorsed by government. In November 2001, VRQs became a key development in the reform of Modern Apprenticeships, although the government expressed its preference for a more "informal, collective term of *Technical Certificate* for this type of underpinning qualification" (Channon, 2000). Furthermore, one of the government's expectations was that the Technical Certificates "should not be too 'general' " in their design (Channon, 2000; her quotes).

As discussed more fully earlier in this chapter, the decision to introduce Technical Certificates as a means of strengthening the knowledge component of Modern Apprenticeship schemes forms part of what Young (2004) has described as a

*connective approach* to vocational knowledge (p186). However, as Young points out, by devolving responsibility for determining their knowledge content to employer-led bodies, Technical Certificates will continue to "retain problematic features of the standards-based model" (p191) not least in terms of their inability to generate the systematic knowledge and understanding required for allowing recipients to move beyond specific work contexts. Ryan and Unwin's (2001) paper was published prior to the actual establishment of Technical Certificates within the Modem Apprenticeship framework. However, the researchers had expressed their scepticism about their promised educational benefits given the scope for employers to undermine or evade the requirement. Similarly, in the researcher's own industry, there was some consternation expressed in certain quarters about the shortfall in the content of the proposed Technical Certificate for the colorant-using sector.[10]

**NVQs AND THE 'ACADEMIC–VOCATIONAL DIVIDE'**

The underlying tensions outlined in the following section have much in common with those connecting the liberalist/instrumentalist debates referred to earlier.

Throughout much of the 20th century, vocational education and training has remained the 'Cinderella' of the English education system being denied the superior status and resources enjoyed by its more prestigious, academic discipline-orientated 'sister', which has begeted the so-called 'academic–vocational divide' (Bates *et al,* 1998).

[10] The researcher was personally involved with the National Training Organisation for the textiles industry in developing the colour technology 'module' of the Technical Certificate for the textiles Modern Apprenticeship. The syllabus represented – on paper at least – the knowledge required to support the appropriate NVQ Level 3 and, following a consultation with the processing sector of the coloration industry, was accepted by employers as meeting that requirement. However, elsewhere reservations were expressed about the scant treatment of the subject matter resulting from the directive to deliver the module as a 60 hour 'guided learning' programme. To put this into perspective, by comparison the colour technology component for the Level 3 BTEC National Certificate qualification referred to earlier (see p3) is a programme based on 120 hours of tutor/student contact time (equivalent to 2 hours tuition per week, normally undertaken over a period of two years or 60 weeks). Moreover, the programme is underpinned by tuition to A-level standard in Chemistry, Physics and Maths for which there is no corresponding requirement in the Technical Certificate framework.

Maclure has alluded to the "historic failure of English education to integrate the academic and the practical, the general and the vocational" (cited in Hyland, 1994, p100). However, in view of what has been elicited about the inadequacies in the NVQ system thus far, it is clear that the introduction of NVQs themselves has done little to improve the situation; and, if anything, their introduction has exacerbated the polarisation between the two elements. Hyland (1994) maintains that the emphasis placed on job-specific competence has actually served to widen the gulf between vocational and academic qualifications through its abandonment of "Dewey's ideal of an 'education which acknowledges the full intellectual and social meaning of a vocation' " (p136).[11] The response to similar earlier warnings about the increasing divergence between the two facets was to establish an 'alliance' of influential representatives of the main political parties, employment bodies and the education sector with a mandate to "devise a coherent curriculum and qualification system in which 'academic' and 'vocational' elements are equally valued …" (Hyland, 1994, p80).

Various suggestions have been put forward for conflating standards-based and knowledge-based approaches. For example, Walton (1996) has attempted to dispel the alleged ignorance, confusion and prejudices surrounding NVQs which, he claims, perpetuate the various vested interests and ideological positions that in turn serve to perpetuate the so-called 'academic–vocational divide'. He subsequently offers a model based on a hybrid approach: a unified programme, which satisfies the assessment arrangements for competence-based as well as knowledge-based awards by which the apparently intractable bridging of the latter division can be

[11] Hyland is referring here to Dewey's contention (which continues to operate today) that the vocational curriculum should be broadened beyond the limits imposed by task-specific instruction so that employees do not become constrained vocationally and socially. In Dewey's words such a system " …would train power of readaption to changing conditions so that future workers would not become blindly subject to a fate imposed upon them." (Dewey, 1966, pp318–19).

achieved. In another case, both Owen (1995) and Burke (1995) have claimed that the outcomes model adopted for NVQs offers the potential to blur the distinction between the two tracks. In support of his claim, Burke identifies support from both Jessup (1995) and Raggatt (1995) on this issue. However, on unpacking the latter authors' papers, it is apparent that it is not outcome-based qualifications as such that offer a means of creating the thus far elusive parity of esteem between the academic and the vocational, but rather it is the incorporation of generic competencies in the form of core skills. Core skills (such as communication, personal effectiveness, problem solving) are applicable to different activities and are identified as being crucial to both education and training, thus providing the common touchstone between the two systems (Jessup, 1991). However, Hyland (1994) remains unconvinced that this will remedy the inadequacies of the narrow competence-based approach. Upholders of the tenets of progressivism have reasoned that opportunities have been created by the more progressive ideology associated with certain elements of the 'new vocationalism' to afford "a partnership between academic and vocational progressives" (Hodkinson (1991) cited in Bates *et al,* 1998). In fact, taking a similar line to Debling above, Hodkinson further believes that education and competence should not be viewed as being mutually exclusive and articulates a model based on the notion that "critical reflection" (one of Dearden's (1984) canons true educational value) can actually promote "theoretical thinking" (Hodkinson, 1991, p85).

There has also been much 'official' support given to harmonising academic and vocational approaches, one form of which – proposed by the previous Conservative administration – was the introduction of a unified system of *ordinary* and *advanced diplomas,* which were intended to allow certification on the basis of combinations of academic and vocational qualifications (DES, 1991). This was later taken up by Sir Ron Dearing whose review of qualifications for 16–19 year-olds considered the

"creation of a new family of overarching awards called National Certificates" (Gokulsing, Ainley & Tysome, 1996, p53). However, to date these have not yet been implemented. In the same way, it is claimed that one of the functions of GNVQs, with their mandatory incorporation of core-skills units, was to present a vocational focus within post-16 general education, thereby attenuating the distinction between the two forms (Oates & Harkin, 1995). However, it would appear that as long as purely academic alternatives remain an option (the A-level 'gold standard' in particular), critical comparisons about the relative value of the two systems will inevitably continue to be made. Brady's (1995) view is that "the competence-based approach, with its downgrading of knowledge at the expense of action, further exacerbates the academic–vocational divide" (p8). Brady goes on to make the point that, amongst UK managers in particular, there is an assumption that many jobs do not in fact need individuals to apply their knowledge or judgement – the latter aspects being the prerogative of management. Although Brady himself does not expand on the reasons for this, from a personal viewpoint it would seem to highlight the competence movement's emphasis on the 'Tayloristic'[12] distinction between those members of the workforce who are responsible for the conception of work and those who execute it. In the Marxian analysis, alienation of the latter group from the means to apply their understanding, judgement and control of the process of production serves to perpetuate the technical and social divisions that exist in the workplace (O'Donnell, 1997) and, moreover, does nothing to redress the schism that exists between the vocational and the academic.

The recent 'Tomlinson Report' (DfES, 2004) readily acknowledges that there is a general perception of vocational learning as being inferior to academic study, a perception that is reinforced by the lower labour-market wage returns in respect of

[12] Referred to earlier.

vocational qualifications. By way of countering that view, the statement that "vocational learning is not just a matter of contributing skills to the economy, nor of providing opportunities to young people who find difficultly with academic subjects…" (p78) seems to signal the promise of developing a vocational programme that will overcome the criticisms of narrowness and 'educational paucity' that are associated with current work-/job-based programmes. Yet, the promise remains unfulfilled: the only solution offered by the Report is to conflate the vocational and the academic, which is seen as a way of increasing the participation rate in vocational learning among young people. As Smithers (2004) has pointed out, "bundling up" everything in one qualification will not put the two tracks on a par with each other; instead, what is ultimately required is for any 'reformed' qualification to become recognised and accepted as currency by employers. However, this may prove difficult to realise as indications are that employers, if anything, seem content with, or are simply apathetic towards, the status quo.

As discussed at some length earlier in this chapter (see Eraut (2004) and Young (2004) above), a crucial issue that has been overlooked in many of these debates is an appreciation of the distinction between theoretical and tacit forms of knowledge. Young (2004) has shown that, epistemologically, the two forms are incompatible – one cannot be derived from the other – which presents "problems of bridging the gap between them through the process of *recontextualisation*" (p198; my italics). In a different, but no less important way, Eraut (2004) demonstrates the immense difficulty involved in transferring knowledge from one setting to the other, not least because of the "considerable differences in context, culture and modes of learning" (p212).

**IMPLICATIONS OF COMPETENCE-BASED APPROACHES FOR THE POST-COMPULSORY SECTOR**

As earlier research by Unwin (1990b) predicted, the implications of the introduction of NVQs for Further Education colleges have been considerable. Making the qualifications independent of the learning process, and handing over delivery and assessment to private as well as public organisations, has presented serious challenges to the dominance of colleges in the vocational education and training sector and has forced them to compete more than ever before in the marketplace. Unwin's research also indicated that, in future, colleges will need to make sweeping changes in their approaches to curriculum design and pedagogy; in their organisation and management; and even in the type of student they cater for. Traditional, in-class, subject-based lectures will need to be replaced by a 'workshop' approach with new modes of assessment. Senior managers will have to be prepared to devolve budgeting and other financial responsibility to departmental level. Obviously, all this has repercussions for staff development and staff status which, within the de-skilling/re-skilling equilibrium, can have drawbacks as well as advantages. On the plus side, though, Unwin believes that, ultimately, students will stand to gain from a necessarily more responsive approach by colleges to the general needs of the clientele (students and their employers) including more open access, trainee-centred approaches to learning and assessment and accreditation of prior learning. A survey of colleges, undertaken by Raggatt (1994), signified that the NVQ approach provides the momentum for improving student motivation. This was evidenced by students working through their lunch breaks; extra time spent in the college library; volunteering for additional work sessions; and a general heightened degree of interest in tracking their own development. Though Raggatt does not attribute students' increased motivation directly to their taking the qualifications, he does acknowledge that the way in which learning and assessment is organised has the potential to empower students by allowing them to take greater responsibility for their

own learning and assessment and also by clarifying what they should do in order to achieve the qualification.

In relation to *G*NVQ students, Wolf (1999) cites detailed studies undertaken by Bates (1995); Bates & Dutson (1995); Broadfoot *et al* (1995); and Meagher (1997), which have shown that similar measures of autonomy and responsibility that have been accorded to students for planning and managing their work have created problems in other areas: Broadfoot and her colleagues concluded that, while students enjoyed an autonomous approach to learning, a high proportion tended to be overwhelmed by the amount of 'paperwork' involved, which contributed to the substantial drop-out rate. Bates (1995; 2004) also noted that not all students are motivated by the less structured and less didactic forms offered by competence-based programmes and that they thus tended to "vary in their capacity to cope with and take advantage of independent learning" (1995, p52). She has suggested that students' capacities to benefit from independent learning may derive in part from their particular social and cultural background. Hence, it would seem that students of working-class parents would be more likely find themselves disenfranchised by less guided extra-mural approaches requiring self-direction. Further disincentives to implementing NVQs in the workplace have been identified in Bates and Dutson's (1995) study, which demonstrates how 'NVQ-related activity' became marginalised due to the operational constraints arising out of the day-to-day running of the business and also by their neglect of the wider social context into which they have been introduced. It therefore emerges that NVQs themselves do not automatically resolve the training problems that they are purported to address, but – like the scattershot of other political interventions in this area – can be legitimised on political and economic grounds.

Much of the available literature on NVQs tends to overlook the need to bring about changes in attitude – in ethos even – of all those involved in the delivery of these

qualifications if their implementation is to be wholly successful. Jessup (1991) has briefly reviewed the implications of the issue for deliverers, employers and, not least, students. Whilst a lot of what he identifies as important is either speculative or prescriptive, he does enumerate some actual concerns voiced by teaching staff within further education regarding the proposed introduction of NVQs within their respective organisations. These include: difficulties in adopting and relating to more student-centred approaches (for example, with regard to their emerging roles as facilitators and assessors as well as teachers); changed relationships with colleagues; loss of professional esteem; and the usurping of colleges' traditional role of providers by transferring learning to the workplace. Studies by both Raggatt (1994) and Wolf (1999) note huge increases in staff time spent on assessment, particularly in the area of assessing prior experience. However, on the positive side, as alluded to earlier some staff see the introduction of NVQs as stimulating and challenging with an opportunity to develop new roles and skills.

**Comment [M4]:** Check Jessup on this and modify as necessary.

In relation to actual teaching practice, one criticism of the outcomes approach to curricular organisation that has been identified (though refuted) by Burke (1995) is that it "limits and de-professionalises the role of the teacher" (p56). With reference to various models of curriculum delivery, Burke argues that, far from compromising the professional status of teachers, the outcomes model (as described by Jessup, 1991) demonstrates that competence-based approaches serve to "promote and celebrate the professionalism of the teacher" (Burke, 1995, p74). It is claimed that this is most obvious in relation to the delivery of *G*NVQs wherein teachers play an important function in acting as *facilitators* in the student learning process. As Burke later reminds us (p75), NVQs and GNVQs are based on "units of assessment" and not "units of instruction". Hence, according to Burke, teachers are not subject to the constraints of rigid curricular demands, but are free to deploy their professional autonomy with regard to teaching style, mode of delivery and subject emphasis.

Nevertheless, other commentators (Field, 1995, for example) have found that, in practice, the qualifications do not match up to Burke's claims regarding their curricular and occupational flexibility.

So far, this section has tended to concentrate on the implications of actually delivering NVQs for the post-compulsory sector, including FE staff. It should be noted however that competence-based qualifications for the education, training and development of FE lecturers themselves have been available for some time now and that many teaching staff are obliged to attain an NVQ as part of their training (Hyland, 1995). This situation has given rise to criticisms of its own, particularly with regard to lecturers' professionalism. Hyland (1994), for instance, challenges the idea that teaching staff should be required to obtain work-based qualifications based on the NVQ model simply because they themselves are engaged in delivering NVQs. He maintains that a "narrowing of academic focus at all levels of the profession" (p91) has served to lower both the personal and the public's perceived status of teachers as 'professionals' and that an introduction of competence-based strategies into their training will bring about further erosion of that status. On this latter point, if what Hyland maintains is correct, then it seems reasonable to predict that this will have similar implications for other professions. Elsewhere, Hyland (1995) maintains that programmes of preparation and development grounded in 'Taylorist', behavioural principles – whether for teaching or for other professional spheres – are the "most unlikely vehicle[s] for the upgrading of VET and the general upskilling of the workforce ... " (p50). He goes on to cite a number of studies by other researchers that have demonstrated that the narrow focus of NVQs has actually served to de-skill workers' roles in a variety of occupational settings.

Finally, an earlier FEU publication predicted that "the number of staff who will be directly affected [by the introduction of NVQs into Further Education] … will be

greater than for the advent of the Business and Technician Education Council (BTEC), the Youth Training Scheme (YTS) and the Certificate of Pre-vocational Education (CPVE) combined" (Pursaill & Potter, 1994, p3). Reflecting on the latter commentators' warning, it is possible that the full effect of those changes has still to be felt.

**SUMMARY OF THE LITERATURE FINDINGS AND CONCLUDING COMMENTS**

Drawing on a cross-section of the literature on NVQs and related topics, this chapter has examined the more significant issues and debates surrounding what has been claimed of them by successive governments and other protagonist groups – namely, their effectiveness in raising the skills level of the UK's workforce. Although these debates are considered with reference to the general situation, they nevertheless resonate with debates taking place within the coloration industry and thus provide a basis for the ensuing investigation.

Reflecting on the range of arguments and evidence put forward by the literature on NVQs, it is apparent that viewpoints tend to be widely contested with ostensibly a greater proportion of the literature denouncing rather than supporting them. This can partly be explained by the assertive tone of the official documentation and the claims made therein. However, this fierce debate has provided an interesting and valuable insight into developments that have taken place in this area. The material produced by proponents of the system – predictably, though not exclusively, those with links to government departments – tends unreservedly to eulogise the benefit of NVQs, especially in terms of their potential contribution to the UK's economy. By contrast, dissenters – especially Hyland (1994) and Smithers (1997) – have been unrelenting in their emotive and damning criticisms. However, some more moderate adherents (Burke, 1995; Hodkinson & Issitt, 1995, for example) have tended to occupy a more analytical and less extreme middle-ground.

The development of NVQs can be traced back to the wider, nineteenth-century debates centred on the belief in the vocational primacy of schooling. However, it was not until the downward economic spiral of the mid-1970s and the ensuing problems for trade and industry that the hitherto *laissez-faire* attitude of UK politicians to education and training gave way to more persuasive measures, fuelled by the anti-liberalist lobby, for establishing a greater occupational relevance within the school and vocational curricula.[13] The outcome was a renewal of earlier instrumentalist/humanist arguments about the whole purpose and value of education and training —arguments wherein supporters of the liberal–humanist tradition were quick to demonstrate the fallacy of, amongst other things, the deployment of competence-based strategies for NVQs. Their denouncement of this approach was in part derived from its fixation on employer-dictated occupationalism in which thinking skills are displaced by habitual behaviour (or "habit psychology" as Hyland refers to it [1994, p3]).

In addition to this narrow, prescriptive focus, a further defect in policy has been the futility of putting employers in the driving seat for VET reforms, given their historical indifference to education and training. The irony, as Ryan and Unwin (2001) point out, is that despite the 'unprecedented influence' accorded to employers over public policy on training, so little commitment has been elicited from them. A further paradox is that research has revealed that most employers do not fully understand what it is they require from an education and training system.

Although NVQs have consistently been canvassed as being 'employer-led', because of ineffective employer drive and employers' general lack of participation,

[13] Paradoxically, some of the initiatives that were introduced under the banner of the ensuing 'new vocationalism' have been considered by some commentators as drawing upon a number of elements of progressive ideology (see Bates *et al,* 1998).

the researcher suggests that it would be more appropriate to describe them as 'employment-led'. The description also aligns with their formulation on the basis of the functional analysis of the activities relating to specific employment roles. This employer ineffectiveness is evidenced in the researcher's own field of coloration technology where, out of the seven industry-based representatives of a lead-body working party set up to derive units of competence for the industry, only two were regular attendees, and the most that ever attended any meeting was three. These industrial representatives were in fact line managers within their organisations and not training personnel; hence they tended to lack the time and – perhaps more importantly – the expertise to allow them to keep abreast of relevant developments and were often obliged to leave the detailed deliberations on education and training matters to the more informed representatives of the training agencies whose remit was to market NVQs to the industry. Significant here is Raggatt and Williams' (1999) observation that promotion of NVQs by influential bodies (including the CBI, C&GLI) has helped to 'legitimise' their introduction in the 'minds' of employers, who have taken the view that if the qualifications have the backing of these bodies, then it follows that they must possess credence (though, in many cases, this still does not appear to have clarified employers' lack of understanding of them or to have won over their wholehearted support for them).[14]

What is emerging from the literature is that the displacement of theoretical knowledge by workplace competence has done nothing to help raise the status of vocational education and training and, if anything, has served to re-enforce further the demarcation between the high-status 'academic' and its poor relation, the

[14] The apathy of employers in this country to VET generally was highlighted by the Ofsted survey, *Pathways to Parity* (cited in the 'Tomlinson Report' – DfES, 2004), which found that in Denmark, the Netherlands and New South Wales, employers were much more directly involved in determining the content and in the assessment of vocational courses than are employers in England.

‘vocational’. This situation has been mirrored institutionally. For example, in secondary education, the vocational curriculum has been deployed as an ameliorating response to cater for those pupils who are either incapable or unwilling to engage with the traditional academic curriculum (Avis, 1991); while the post-compulsory sector has seen an increasing division in status between HE and FE in which the professional autonomy, curricular responsibility, and personal and teaching relationships of many lecturers working in the latter sector have been adversely affected. However, the later decision to introduce core-skills units into the NVQ framework and the more recent introduction of Technical Certificates into the Modern Apprenticeship framework have hopefully helped some staff to re-define their professional roles and regain some of their lost self-esteem.

In spite of the grave misgivings that they have evoked, NVQs have been developed and implemented far too extensively to warrant making a complete U-turn; and, consequently, it has been suggested that the best way forward is to build on the experience gained with the system, introducing modifications such as a prominence given to learning *processes* and not simply to learning outcomes (Hodkinson and Issitt, 1995). Even dissenters like Hyland have recognised that “there are now good examples of development work in specific professional fields ... which have attempted to locate NCVQ criteria within a framework [that] remains faithful to professional principles and practice” (1995, p53). Hyland later proposed that the situation could be resolved by the creation of a unified curriculum in the post-school sector, which would effectively do away with the distinction between the vocational and the academic. The merger that took place between NCVQ and the Schools Curriculum and Assessment Authority offered such an opportunity. An alternative approach would be to retain separate qualification tracks that recognise individuals’ different abilities, but which encompass a core of general knowledge like those in some of the Continental VET systems, which are said to be valued equally highly by academia

and employers (Hyland, 1999). However, in the researcher's view, part of the problem in attempting to accord equal status to the two forms of qualification lies in the way that the status of different occupations are reflected by the deep-rooted (though often contested) values placed on them by society (Thompson, 1982; O'Donnell, 1997). Thus, if NVQs are restricted to the more manual occupations requiring minimal application of intellect (which appears to be the case), then it will be difficult in the short-term for them to become ranked equally in people's minds alongside qualifications designed for the more 'prestigious' professions of, say, law or medicine.

In the final analysis, it is evident that the major political administrations remain uncompromising in their belief in the economic effectiveness of NVQs. This position may have been justified in the post-war, industrialised Britain of 50 years' ago when manufacturing was largely based on Fordist production methods of 'one man, one job' (Murray, 1989). Arguably, under such circumstances, the correspondingly fragmented outcomes model, which characterises the NVQ framework, may well have been a more appropriate method of attesting to a person's competence than the former, time-serving apprenticeship route. However, if – as some commentators' claim – the country is moving towards a post-Fordist, post-industrial economy (Murray, 1989), then it is suggested that the qualifications will serve only those organisations which are trapped in what Finegold and Soskice (1988) have described as a *low-skills, low-quality equilibrium* —a state of affairs from which industry and commerce cannot easily move because of the absence of a well-educated and well-trained workforce.

Unlike NVQs, the qualifications that form the backbone of current education and training for the coloration industry are characterised by a strong academic focus. This is especially the case with the higher-level qualifications awarded by the

industry's professional body, which have traditionally emphasised a requirement for subject knowledge (rather than skills) with assessment of this by formal examination. What is more, the low pass-rates in these examinations are interpreted by some as a measure of their difficulty combined with a perception of the qualifications as being of high academic status (cf. Jessup, 1991). This academic status "achieved through mastery of the subject" (Bates *et al,* 1998, p118) has resulted in personal autonomy for individuals qualifying via this route. This, in turn, has empowered them to enhance their career prospects and all that that entails, including the ability to command higher salaries. The issue is whether employers view the education and training system simply in these terms, that is as a means to personal gain, or alternatively have the vision to see beyond this towards a human capital investment that has the potential to help them forestall or break out of the low-skills equilibrium. This position seems crucial to the type of qualification they are likely to favour for their respective workforces.

The next chapter describes the methods by which this and related issues were explored: firstly, by undertaking in-depth interviews with key personnel in the industry with primary responsibility for the industry's education and training system. This enabled the major issues and concerns to be identified. Secondly, a questionnaire survey of the entire UK industry was conducted in order to obtain the wider employer perspective.

# Chapter 3

## RESEARCH METHODOLOGY

**INTRODUCTION**

As indicated in the previous chapter, a mixed-method approach to data collection was used. As discussed below, this approach has provoked a great deal of controversy among those researchers who see a fusion of the two traditions as a complete anathema. However, in this and the following chapters, I will argue that the adoption of a combination of methods not only helped overcome several practical difficulties, but that it also provided for a more comprehensive understanding of the issues surrounding the research questions.

***Overview of the main approaches to data collection***

The general feature that distinguishes qualitative research from quantitative research is that the former produces data that is, by and large, *unstructured;* that is, it does not readily lend itself to a form that is identifiable with specific analytical categories that have been pre-defined by the researcher. At the other extreme, quantitative data is normally categorically well-defined and can readily be subjected to quantification or to more complex forms of statistical analysis. However, this simplistic distinction is by no means unproblematic and has given rise to numerous debates about which, if either, is the more appropriate model for making sense of the complexities of the social world.

Positivist researchers (i.e. supporters of quantitative methods) argue that research in the social sciences should be conducted in a controlled, systematic and structured way using procedures akin to those deployed in the natural sciences. Those

favouring qualitative approaches believe that human action is too complex to be analysed in terms of quantitative or structured data and that the world can only be understood through naturalistic methods, which allow the researcher to have direct experience of the meanings and interpretations that the social actors place on it. The positivistic approach is committed to the principle of *objectivity,* that is to say avoiding personal bias by distancing the researcher from the subjects of the research in order to gain an insight into the 'reality' of what is being investigated (Hitchcock & Hughes, 1989). The intention here is to hold up a mirror in an attempt to reflect as accurately as possible what is happening in the world or, as Sparkes describes it, to "stand behind a thick wall of glass" (1992, p22) in order to observe events completely unobtrusively and without affecting them in any way. Positivists seek to achieve this state of affairs by the kind of research methodology or techniques that they deploy (Sparkes, 1992); for example, the use of a questionnaire attempts to distance the researcher from the actual data-collection process. By contrast, naturalistic researchers maintain that it is only by participating and sharing in the lives of one's subjects that one can even hope to approach the 'reality' or 'truth' of a given situation. However, in their view, the notions of 'reality', 'objectivity', 'truth' are illusory – an unattainable ideal as different people have different ways of interpreting the same experience. Consequently, what approximates to the 'truth' is in fact a relative concept based on a multiplicity of 'truths' (Eisner, 1992).

The arguments presented in respect of both the above paradigmatic positions are extremely persuasive and, I found, made it difficult to discount one research method in favour of the other. Similarly difficult to dismiss are the arguments against deploying a synthesis of the two approaches, put forward by advocates of the so-called "incompatibility thesis" (Howe, 1988). These 'incompatibilists' (Smith and Heshusius for example) have, in my opinion, formulated a highly convincing raison d'être why, epistemologically at least, it is important to recognise the existence of an

ideological distinction between objectivist, quantitative approaches and relativist, qualitative approaches (Smith & Heshusius, 1986). Nevertheless, there is an equally strong body of thinking that supports attempts to capitalise on the benefits of combining more than one approach. Authorities on methodological procedures, among whom are Bryman (1988), Howe (1988) and Robson (1993), are less concerned with possible conceptual difficulties than with 'what works' at the level of actual practice. As Bryman concludes, the utilisation of one particular method does not automatically preclude the use of another. The main consideration "is to be aware of the appropriateness of particular methods (or combinations of methods) for particular issues" (1988, p173). Moreover, he maintains that the application of more than one method of investigation within the same inquiry embodies "the logic of triangulation" [15] (p131).

**RESEARCH DESIGN: SELECTION OF METHOD**

Although from an epistemological standpoint I was never committed to one particular research paradigm, as a part-time researcher working in full-time employment, there were certain practical considerations that would inevitably influence my choice of research design. I needed to adopt a method that would meet the requirements for providing a relatively large number of responses over a short period, the data from which was manageable within the constraints imposed by my everyday workload. Given these practical requirements, the most favourable approach seemed to be that of a survey. An extensive interview study would have resulted in greater personal satisfaction, but this was deemed not to be feasible in the light of the limits on time and other resources available to me.

[15] *Triangulation* in social research may be described as the use of evidence obtained from multiple or different methods, sources, researchers or theories as a way of enhancing the validity of the investigation (Robson, 1993). Bryman's claim here is that the triangulation technique of deploying several methods in order to gain a multiple perspective on an issue greatly increases the chances of accuracy, and hence trustworthiness, of the findings.

The original intention, therefore, was to undertake a survey of the industry using a questionnaire. However, the use of a questionnaire by itself was considered to be too restrictive in eliciting respondents' gut reactions or unconscious attitudes. Therefore, a compromise decision was taken to combine the latter with a limited number of interviews. In the event, the utilisation of more than one method (specifically the inclusion of the qualitative component) yielded two important benefits, which undoubtedly contributed to the overall credibility of the research process: firstly, the initial interview phase provided an opportunity to 'test', from an external perspective, my underlying hypothesis, which had been developed by me as an 'insider' working within the industry being investigated; secondly, it aided interpretation and clarification of my own thoughts in relation to my original research questions.

The data collection was divided into two distinct phases. The first was a qualitative investigation in the form of in-depth interviews with a number of key individuals having expertise in, and responsibility for, qualifications and training within the industry. The information generated by the interviews was then used as a basis for developing a questionnaire, representing the primary research instrument for the secondary, quantitative phase —a survey of senior training personnel within the industry as a whole. In the earlier stages, it was expected that the two sets of data would be used discretely and that the quantitative strand would constitute the dominant source. However, to address the research questions adequately, both types of data needed to be utilised interactively. A description of the two phases of data collection is given below.

***Qualitative phase***

As already indicated, the logic behind this phase was to seek out the perspectives of a cross-section of key industrial trainers on the current education and training system

for the industry, and thereby to elicit from them any particular issues or concerns that warranted further exploration with the wider population as part of the secondary phase. Face-to-face taped interviews were conducted with six individuals, who were selected on the basis of their wealth of knowledge and experience of the industry's qualifications and training system. Negotiation of access can sometimes be difficult for researchers, particularly when approaches lack official backing. However, in the event, this was not a problem for me, though I am certain that my position as Education Officer with the professional body for the industry was a mediating influence, even though it was made clear to them that I was working independently.

The interviewees comprised three representatives from each of the two sectors of the industry (i.e. six interviewees in total): three from the colorant-*manufacturing* sector (manufacturers of dyes, pigments and associated chemicals) and three from the colorant-*using* sector (dyeing and finishing companies). Of the six participants, two were responsible for the training function within separate UK-based, multi-national chemical companies embracing colorant manufacturing; two were Industry Training Organisation (ITO) personnel responsible for colorant-user training nationally; and two were self-employed training consultants, both extensively involved at the time in introducing various national education and training initiatives into the industry, one within the colorant-manufacturing sector, the other within the colorant-using sector.[16] Of the six, only the two industry-based training staff were not known to me; I had met the four others previously in the context of policy meetings. [N.B. Full background details of the interviewees is given in Chapter 5.]

[16] Though it is not claimed to be significant to the validity of the study, it transpired that the composition of each of the above three professional groupings resulted, quite by chance, as comprising one male and one female participant.

All the interviews (which were conducted over a five-month period) were carried out in the respondents' respective offices. The average duration of each recorded session was approximately one hour, with any additional related material arising outside of the recording being noted separately. (My signal to terminate the interview and stop the tape resulted, in all cases, in the conversation continuing for a further five to ten minutes, albeit on matters not directly specific to the research questions.) An interview schedule [Appendix 1] organized around the research questions was used to guide discussion. However, the intention had always been to encourage participants to talk as openly and discursively as possible, transcending the content dictated by the research questions as appropriate. I was guided in my approach by the need to emulate, as far as possible, a series of open-ended conversations, introducing questions from the schedule at opportune points in the discussion rather than in a fixed sequence. This seemed to work well and, in the event, it was never felt necessary to 're-focus' interviewees on the issue under discussion though, in retrospect, there were two occasions where I consider myself having been guilty of allowing the interviewees to 'over-run' at the commencement of the interview on descriptions of their personal and professional involvement in education and training.

As well as facilitating question formulation for the survey, the interviews provided an opportunity to refine my original research questions. As each interview in turn created new information and levels of understanding, it would have been possible to modify my questioning at each stage to accommodate these 'escalating insights' through the process of *progressive focusing* (Lacey, 1976). However, in the quest for what I believed would provide a more consistent approach, this was not done and the same interview schedule was used in each case. Notwithstanding this, on subsequent transcription of the recordings, it was evident that each exhibited a different tenor despite covering the same broad themes.

The advantages in being an insider researcher (viz. facilitation of access, background knowledge coupled with an understanding of the research context, etc) are well-documented (e.g. Robson, 1993). On the downside though, there are also substantial disadvantages, one of which is how the researcher's professional identity may affect the extent and way in which respondents supply information. This problem of researcher–respondent *reactivity* (Robson, 1993, p208) can undermine the validity of the evidence. Correspondingly, throughout the interviews I was always conscious of the possible influence that my position with the industry professional body might have on the direction of responses, even though I had re-emphasised the independent nature of the research at the start. An additional reason why I was adamant that the research should, as far as possible, be conducted along personal lines and be independent from the professional body was to forestall any incursion by my employers, who might have wanted to manipulate the outcome of the findings for their own purposes, which again would have been a further potential for bias.

Looking back, I am confident as is reasonably possible that all interviewees responded as openly as possible in relation to their own opinions and, more importantly, with regard to the opinions of the industry that they represented. This was particularly evident in several cases where tensions relaxed, allowing trust to be developed, as the interviews progressed. In fact, to me, one of the most striking features about the interview process itself was the extent to which it enabled individuals to speak from their own position, as social actors, on their understanding of the situation and as they themselves were able to interpret and influence developments in this area.[17] This again was surprising as, as a novice interviewer, I had imagined that I would have merely obtained concise and context-specific vocal

[17] Social Action Theory is relevant here (see, for example, O'Donnell, 1997).

responses to my questioning, akin to what might have been expected from an administered questionnaire.

***Quantitative phase***

Whilst the interviews presented detailed data and the opportunity for checking with the interviewees the validity of their claims, the survey potentially provided a basis for empirical generalisation. However, as discussed in more detail later, the low level of survey responses lessens the confidence with which the resulting findings can be utilised more generally.

**DESIGNING THE QUESTIONNAIRE**

To begin with, a preliminary exploration of the recorded interviews was undertaken whereby the dialogue from each was broken down into 'episodes of talk' (Tizard & Hughes, 1991, p29) relating to particular issues or themes that came across as potentially important or interesting. Using a card-index system, the 'chunks' of data deriving from these abbreviated transcripts were subsumed under thematic headings relating to the original research questions. Material that did not form an obvious link with a particular research question was designated as 'miscellaneous' and put to one side for later consideration and categorising.

Once all the information in each of the six tapes had been unpacked in this way, the data, supplemented by context notes made at the time of the interviews, were used to construct questions for the postal survey. The resulting self-completed questionnaire [Appendix 2] comprised six key questions with multiple-choice responses formulated to address the original research questions and other matters arising from the interviews. It had been decided at the outset to maximise the use of closed (as opposed to open-ended) questions which, according to Youngman (1978) and

Robson (1993) provides for a more ‘standardised’ approach giving less opportunity for misinterpretation by respondents and consequent error at the data-processing stage. The questions were designed to minimise the amount of writing by respondents – a circle or tick being required in most cases – as it was felt that this would be less onerous in terms of completion, the expectation being that this would result in a higher completion rate.

With regard to the questions themselves, nothing in the data deriving from the interviews caused me to re-formulate or retract any of my original research questions. However, there were recurring references to matters associated with the economic imperative of education and training such as the prosperity, profitability and sustainability of a company. I was also reminded of earlier findings in the literature (for example, Bates *et al,* 1984; Moore, 1988) that non-academic criteria (including attitudes to work and personal characteristics) are at least – if not more – important to employers than are academic qualifications. I therefore felt that these additional issues, which reflected the economic–instrumentalist perspective and were *grounded* (Glaser & Strauss, 1967) in the data, should be explored through the questionnaire. Hence, these were accommodated through the choices of response to questions offered, and were balanced by a series of contrasting responses relating to the value, especially to the employee, of approaches to education and training based on the liberal–humanist tradition.

The final section of the questionnaire included a range of statements designed to gauge the strength of feeling towards competence-based and examination-based qualifications. The statements were developed using a technique similar to that for a summated rating (Likert) scale as described by Robson (1993, pp256–58). Variations on the same statement were used in an attempt to tease out respondents’ attitudes to the contrasting systems of qualification. Respondents were asked to indicate their

degree of agreement or disagreement with the statements using a four-point range, with the addition of a 'don't know' option to cater for those individuals who had not had any experience of offering NVQs.[18] A four-point range rather than the traditional five- or six-point model was chosen deliberately in order to prevent respondents selecting the easier, middle-ground option, thus forcing them to take a particular stance.

**QUESTIONNAIRE PILOTING AND DISTRIBUTION**

Once a draft had been produced that represented all aspects for investigation, copies were sent for piloting purposes to the six key informants that had participated in the interviews, together with a supplementary list of questions concerning the questionnaire itself (design aspects, clarity of questions, length of time to complete, etc). Copies were also sent to appropriate staff within the School of Education at Leeds University for their comments and advice. The feedback obtained resulted in the re-sequencing of certain questions into a more coherent order, and also in the elimination of a number of the statement variants in the final section in order to reduce the total page length from five to four pages. However, these modifications did not detract from the overall questionnaire content. Also, within the four pages a lot of 'white space' was retained in order to facilitate ease of reading and for insertion of additional comments. The final version of the questionnaire was accompanied by a 'front page' to be completed by respondents in respect of information about themselves and their organisations, together with a covering letter outlining the nature of the research and inviting them to participate. Potential respondents were assured that any information used in the final report would not – unless they wished otherwise – be attributed to them or their companies, and they themselves were given the option of submitting the information anonymously.

[18] It is acknowledged that this option may also have been selected by respondents not wishing to concede to a particular position.

The questionnaire and attachments (a stamped-addressed envelope included) were circulated to the personnel/training departments within 213 companies at the end of August 2003. The latter companies, based on a commercially available database used by my previous employer (the UK professional body for the coloration industry), ostensibly represented the total population of colour-manufacturing (total 73) and colour-using organisations (total 140) in the UK at that time that were likely to be engaged in nationally-recognised external training for their employees.[19]

Following the approximately four-week deadline, only 56 returns were obtained. Of these 36 were completed; 4 did not wish to participate; and 16 companies had ceased trading. Subsequent attempts to boost the response rate significantly proved to be an intractable problem. Several weeks after the deadline, almost all the remaining 157 companies unaccounted for were contacted by telephone. Taking account of refusals, those about to wind up the business, etc, a further questionnaire and stamped-addressed envelope were sent out at the beginning of November, with a two-week deadline, to 76 *named* individuals that had agreed in principle to participate. However, this second mailing, despite the high level of vocal support indicated by the telephone contact, yielded only an additional 11 completions, giving a total of 47 (approx 24% of available population). The following table (Table 1) gives a breakdown of the general characteristics of the responding organisations:

[19] It is known that there is a number of small organisations that do not provide access to national training schemes for their employees. For example, there are those involved in buying colorants in bulk from the manufacturers, which they then repack and sell in quantities that are too small to be economically viable to be supplied by the manufacturers themselves.

***Table 1***

***Summary of respondent characteristics***

| **Company type** | **Colorant manufacturer** | | | | | **Colorant user** | | | | | **Total for both types** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Number of employees** | 1–10 | 10–30 | 30–60 | 60–100 | | 1–10 | 10–30 | 30–60 | 60–100 | | 1–10 | 10–30 | 30–60 | 60–100 | |
| *(number of companies in range given in italics)* | *6* | *7* | *1* | *2* | | *3* | *6* | *10* | *3* | | *9* | *13* | *11* | *5* | |
| | 100–200 | 200–500 | over 500 | | | 100–200 | 200–500 | over 500 | | | 100–200 | 200–500 | over 500 | | |
| | *2* | *2* | *1* | | | *3* | *1* | *0* | | | *5* | *3* | *1* | | |
| **Location** | Y | N/W | Mid | Scot/ NI | Other | Y | N/W | Mid | Scot/ NI | Other | Y | N/W | Mid | Scot/ NI | Other |
| Y = Yorkshire<br>N/W = North West England<br>Mid = Midlands area<br>Scot/NI = Scotland & Northern Ireland | *9* | *6* | *4* | *0* | *2* | *14* | *1* | *6* | *3* | *2* | *23* | *7* | *10* | *3* | *4* |
| **Job function of respondents** | T | HR | E | P | Other | T | HR | E | P | Other | T | HR | E | P | Other |
| T = Technical function (e.g. laboratory staff)<br>HR = Human Resource/ Personnel/Training function<br>E = Executive function (e.g. director/senior management)<br>P = Production function | *4* | *3* | *9* | *2* | *3* | *2* | *2* | *16* | *4* | *2* | *6* | *5* | *25* | *6* | *5* |
| **Order of response** | 1st mailing = 18; 2nd mailing = 3 | | | | | 1st mailing = 18; 2nd mailing = 8 | | | | | 1st mailing = 36; 2nd mailing = 11 | | | | |

**NATURE OF THE DATA PRODUCED**

In essence, the responses yielded three types of data (1 to 3 below):–

1. The ‘front page’ provided ‘objective’ data giving factual information about

– the type of organisation (viz colorant manufacturer/colorant user)

– the size of the company in terms of the number of people employed

– the job function of the person completing the questionnaire.

The following additional information was also included in the analysis:

– the geographical location of each company

– the order of response (viz. whether the questionnaire was received in response to the first or second mailing).

***Significance of above data to interpretation of findings***

Though the *general* characteristics of the population such as age, sex, geographical location, etc were not expected to influence the nature of the responses, as already indicated a variation in attitude to the type of qualification required by technical staff is likely between colour-manufacturing and colour-using companies, each of which places a different emphasis on the value of theoretical versus practical content of the course curricula. This arises because a knowledge of theoretical, preparative chemistry is of more importance to a colorant manufacturer than to a dyer or printer applying the colorant, the latter being more concerned with the technological and practical aspects of its application.

Furthermore, it was felt reasonable to expect that attitudes to the type of training available may also vary between large conglomerates and the smaller, private organisations in the following ways: whilst most of the larger companies are known to

have a separate training department, in smaller organisations it is often the case that the training function is subsumed within the personnel department, or may even be the responsibility of an executive or line-manager. Some of the very small companies devolve responsibility for training to their local industry training organisation (ITO). Allied to this, the occupational roles of respondents may affect their attitudes to training. For example, I know of at least one company where the technical manager insists that his technical staff aim towards a degree-level qualification in a work-related discipline, whereas the personnel manager in the same company actively encourages staff to attempt to broaden their knowledge base by pursuing a more generic management degree in preference to a technical specialism.

The geographical location of companies is unlikely to reveal any significant differences between populations and is included here primarily for additional contextual information. However, the individuals that responded to the second mailing may well differ in some way from those who responded without the need for a reminder (Robson, 1993). For instance, it could be that the first respondents had a particular axe to grind whereas those responding later may have provided a more considered and/or disinterested view.

2. The questionnaire itself supplied the bulk of the structured attitudinal data designed to address the research questions.

3. More expansive, ‘qualitative’ comments were provided by several respondents either within the questionnaire itself or in a separate letter.

The above information was coded and used to construct a data file for subsequent analysis using SPSS.

As with the interviewing process, questionnaire surveys offer – even to a greater extent than interviews some would argue – their own potential for undermining the validity of the data produced; and again, this is well-documented. Discounting issues associated with questionnaire design (rigidity of response categories, ambiguities, respondent misunderstandings, etc, all of which had, as far a possible, been taken into account at the design stage), of primary concern was the relatively low response rate and its effect on validity and the potential to generalise the findings. On this issue, Nisbet and Entwistle caution that “a response rate of less than 70 per cent generally implies that the findings lack validity for general application ... ” (1970, p52); others have suggested that as little as 11 per cent of non-returns is sufficient to distort the results (Bell, 1993). This matter will be explored in greater detail in the following ‘Analysis’ section, along with the rich source of descriptive material that the data provides from which a number of inferences can be drawn.

However, it is worth including the following pattern of responses at this stage (Table 2 over), a cursory examination of which highlights several implications for the ensuing analysis:

***Table 2***

***Pattern of responses***

| **Proportion of responses received** | **Colorant manufacturing sector** | **Colorant users sector** |
|---|---|---|
| **—by company type** | Number of manufacturers surveyed = *73*<br><br>Number of responses = *21*<br><br>∴ Percent responses for manufacturing sector =<br>*21 ÷ 73 x 100 ≈* ***29%*** | Number of users surveyed = *140*<br><br>Number of responses = *26*<br><br>∴ Percent responses for users sector =<br>*26 ÷ 140 x 100 ≈* ***19%*** |
| **—by respondents' function within company** | | |
| Technical function | Number of responses = *4*<br><br>∴ Percent responses for Technical function =<br>*4 ÷ 21 x 100 ≈* ***19%*** | Number of responses = *2*<br><br>∴ Percent responses for Technical function =<br>*2 ÷ 26 x 100 ≈* ***8%*** |
| Human Resource/ Personnel/ Training function | Number of responses = *3*<br><br>∴ Percent responses for HR function =<br>*3 ÷ 21 x 100 ≈****14%*** | Number of responses = *2*<br><br>∴ Percent responses for HR function =<br>*2 ÷ 26 x 100 ≈* ***8%*** |
| Executive function (e.g. director/ senior management) | Number of responses = *9*<br><br>∴ Percent responses for Executive function =<br>*9 ÷ 21 x 100 ≈* ***43%*** | Number of responses = *16*<br><br>∴ Percent responses for Executive function =<br>*16 ÷ 26 x 100 ≈* ***61%*** |
| Production function | Number of responses = *2*<br><br>∴ Percent responses for Production function =<br>*2 ÷ 21 x 100 ≈* ***10%*** | Number of responses = *4*<br><br>∴ Percent responses for Production function =<br>*4 ÷ 26 x 100 ≈* ***15%*** |
| Other | Number of responses = *3*<br><br>∴ Percent responses for other functions =<br>*3 ÷ 21 x 100 ≈* ***14%*** | Number of responses = *2*<br><br>∴ Percent responses for other functions =<br>*2 ÷ 26 x 100 ≈* ***8%*** |

From the previous table it can be seen that, on a sector-by-sector basis, 29% of the population of colorant manufacturers surveyed responded to the questionnaire compared with 19% from the colorant-using sector. This represents a response rate for the manufacturing sector that is slightly more than 1½ times that of the using sector. This result was not entirely unexpected in view of the likely greater propensity towards, and interest in, academically qualified personnel required to sustain the more knowledge-dependent production and R&D functions within the former sector. However, this particular pattern of response could have implications for general interpretation of the survey data. For example, from the data arising from the interviews with the representatives of the manufacturing side of the industry, there was support for 'traditional' knowledge-based qualifications for higher-level technical staff. Therefore, if this trend were to be replicated by the survey, then the data overall could be skewed towards that position. In the event, however, this trend is not entirely borne out by the survey where, with respect to one question, the general tendency among respondents is to value practical experience over and above scholastic knowledge (although this stance was far more prevalent among colour-using companies in which there is a greater need for practical 'know-how' based on experience).

The job function of respondents may have a further bearing on the type of response. Although the numbers involved are small, Table 2 indicates that the proportion of technical staff responding from the manufacturing sector outweighs those in similar positions from the using sector by a factor of almost 2½. It might be expected that technical personnel with responsibility for training within their respective companies would encourage academic attainment among their staff and thereby would favour the academic route. By contrast, almost 1½ times the proportion of senior managers in the colorant-using sector returned the questionnaire. Finegold and Soskice (1988) have observed that some managerial personnel tend to be predominantly concerned

with the ‘bottom line’ and view training needs as an operating expense. To certain others, qualifications are “perceived as a threat to their authority” and they may thus discourage their staff from gaining qualifications that they themselves have not aspired to (p29). The supposition in this case is that managers may prefer staff to have a good grounding in practical application rather than a sound knowledge of more abstract academic theories.

These sorts of issue have a potential for distorting the data and therefore need to be taken into account when drawing conclusions about the overall findings.

## DEALING WITH THE QUESTIONNAIRE RESPONSES

### *Setting up the data file*

The decision to deploy SPSS[20] *(Statistical Package for the Social Sciences)* computer software for analysing the data was made at an early stage and hence, to some extent, guided the design of the questionnaire in a way that data could be captured in a form that was directly convertible into an SPSS data file. For consistency, where questions required an indication of degree of agreement or disagreement with a particular statement, the response categories were arranged from left to right, negative to positive, i.e. as strongly disagreeing to strongly agreeing in each case. The coding for each variable was similarly structured using a simple numeric coding system wherein the most ‘negative’ response was designated ‘1’ with progressive degrees of agreement designated as ‘2’, ‘3’, etc.[21] Missing responses were coded as ‘0’ for all variables. Each of the forty-seven respondents (i.e.

[20] The version of SPSS used was 11.5 for Windows.

[21] Although it is conventional to include coding boxes on the questionnaire itself (Robson, 1993), they were omitted in this case to preserve visual clarity. Instead, a coded master copy was retained by the researcher. This did not present any undue problems in constructing the actual data file.

companies) were arranged in alpha-numeric order being identified by a number (01–47) within the data file.

The full variable names, together with their value labels [22], and other aspects of the variables were entered in the *Variable View* window of the SPSS *Data Editor* in accordance with the procedure described by Bryman and Cramer (2001, pp24–28). A list of all the variables and their corresponding SPSS designations is given in Table 3 over:

[22] The value labels represent the different choices of response to each question (e.g. 'strongly agree', 'disagree', geographical location, etc.

***Table 3***

***Variable names and SPSS designations***

| Variable | SPSS designation |
|---|---|
| Company name | company |
| Order of response (1st or 2nd mailing) | mailing |
| Company type (manufacturer or user) | comptype |
| UK location | location |
| Number of employees | employed |
| Position of respondent | jobtype |
| | |
| 1. Perceived contribution of academic knowledge to:– | |
| profitability | v1a |
| competitiveness | v1b |
| sustainability of business | v1c |
| improvement to product/production | v1d |
| | |
| 2. Perceived degree of benefit of particular sources of education and training:– | |
| externally acquired | v2a |
| internally acquired | v2b |
| other sources | v2c |
| | |
| 3(a). Satisfaction with current external E&T (Y/N) | v3a |
| (b). (Factual info. re courses – no coding) | |
| | |
| 4. Expectations from E&T system:– | |
| contributing to prosperity | v4a |
| developing employees' communication skills | v4b |
| emphasising of company rules/procedures | v4c |
| creating opportunities for personal development | v4d |
| fostering an entrepreneurial spirit | v4e |
| contributing to job satisfaction | v4f |
| imparting interpersonal skills | v4g |
| fostering the 'right' attitude to work | v4h |
| developing commitment to self-improvement | v4i |
| enhancing employee self-esteem | v4j |
| | |
| 5(a). Company experience of NVQs (Y/N) | v5a |
| (b). (Factual info. re NVQs offered – no coding) | |

*cont'd over*

***Table 3 (cont'd)***

| | |
|---|---|
| 6. Views on statements:– | |
| NVQs better indicators of usefulness than exams | v6a |
| Technical knowledge easily translates into practice | v6b |
| Scholastic knowledge essential for good R&D | v6c |
| Practical experience of more value than knowledge | v6d |
| NVQs should be taken by qualified personnel to prove job competency | v6e |
| Good practitioners more useful on shop-floor than in boardroom | v6f |
| Job competence implies knowledge and understanding | v6g |
| Graduates better for R&D than production activities | v6h |
| NVQs should be taken by experienced personnel to prove job competency | v6i |
| Good R&D essential to development and survival of company | v6j |
| With NVQ model, CPD is implicit part of employment | v6k |
| Non-academics are not usually suitable for management | v6l |
| Technical knowledge is easily gained by doing the job | v6m |
| 'External' NVQ holder more valuable than internally-trained non-NVQ holder | v6n |

*N.B. The letter 'v' is placed before each variable as SPSS requires that names begin with a non-numeric character.*

***Preliminary examination of the data set***

When it came to the statistical analysis of the data set, it was recognized that there were limitations inherent within the data that could invalidate the deployment of certain statistical procedures. Reference has already been made to the relatively low response rate that had ensued from what can be regarded as constituting the entire

population. In terms of sample representativeness, this presents a two-fold problem:–

First, had all 213 companies in the survey responded to the questionnaire, then the ratio of those from the colorant-using sector to those from the colorant-manufacturing sector would have been 140 to 73 (1·9:1). In actuality, the respondent ratio was 1·2:1; hence, because of the likely differences in curricular requirements between the two sectors (as explained in Footnote [17], p50), the disproportionately lower number of colorant users in the sample has the potential to cause the nature of the findings to deviate from that which might otherwise have been obtained had the relative proportions been closer to those of the population as a whole.

The second issue relates to the potential problem of how non-participation generally could have affected the results: Bryman and Cramer draw attention to the fact that "respondents and non-respondents may differ from each other in certain respects, so respondents may not be representative of the population" (2001, p101). This constitutes a somewhat different problem to the one discussed above in that, in this case, the comparison is between the group of respondents from *both* industrial sectors whose attitude towards education and training may vary from that of the remaining section of the population that failed to respond. For example, it may be that those who did participate were keen to express a particular view about current developments in the area of VET, whereas companies' failure to participate may be indicative of their lack of interest or opinion. However, another, more likely, explanation is that the latter group did not have the time to complete and return the paperwork.[23]

[23] Of those companies that did not participate, five were courteous enough to furnish their reasons for not doing so. Their explanations varied from 'their insufficient experience of the training system' to 'it being company policy not to participate in surveys'.

A preliminary inspection of the data revealed a number of interesting differences between several variables which, had there been a much higher level of response, were sufficiently large to merit the pursuit of further investigation. However, in view of the aforementioned latent deficiencies, it was felt that it would be futile to subject the data to high levels of sophisticated quantitative analyses and, especially, to make claims regarding the statistical significance of the ensuing results. It was therefore decided to confine the analysis of the questionnaire responses to the descriptive level. Although, at first sight, this appears to be a somewhat 'low-level' approach to analysing quantitative data, as alluded to earlier, the data itself offers a rich seam of information which, utilised in conjunction with the findings from the interviews (and vice versa), offers the opportunity to gain a fuller perspective on the issues being investigated.

**CONCLUDING COMMENTS ON THE METHODOLOGY**

Although, like many other research projects, my choice of method was a compromise dictated by practical considerations, I feel that the mixed-method approach used served the overall purpose in capturing data which, taken together, have synergistically informed the investigation. The low response-rate to the questionnaire survey was disappointing and precluded the deployment of more refined analytical techniques than those used. Nevertheless, the ensuing data – though largely of the *hypothetico-deductive* type (Bryman, 1988) – was amenable to 'fleshing out' by the more inductive, analytical data from the qualitative source. The data from the quantitative and qualitative phases are analysed in Chapters 4 and 5 respectively which, for organisational purposes, are considered under separate headings. However, findings from each set are compared and contrasted where appropriate. Although, chronologically, the procurement of the qualitative data preceded the quantitative, findings from the former are considered first as these are felt to

represent an overview of the wider employer perspective, which is then subsequently illuminated by those from the more intense, qualitative study.

# Chapter 4

## ANALYSIS OF THE DATA – FINDINGS FROM THE QUANTITATIVE STUDY

**INTRODUCTION**

The alleged success with which NVQs have been accepted by some employers, as claimed by NCVQ and later by QCA, has been met with some scepticism by critics such as Hyland (e.g. Hyland, 1999). One purpose of this part of the investigation was to reach as many employers in the coloration industry as possible to establish how far these 'official' claims are true for that industry. A further aim was to find out the extent to which the present education and training system meets the industry's perceived requirements and whether any changes are deemed necessary, specifically with regard to the possible introduction of NVQs.

Considered overall, the findings suggest that while employers were not altogether dismissive of the present provision, there was a sense that the industry does not wish to invest in more generalised, transferable skills for its employees whether through the current system or via NVQ programmes. Instead, the evidence points to a clear preference for internally-based training focused on company-specific activities.

**DEALING WITH THE DATA**

The first step was to sort out, classify and then summarise the questionnaire data. This was accomplished by generating *frequency distribution tables* to illustrate the

percentage proportions of responses to each question,[24] both overall and for each of the five categories of respondent, viz:

- by sector (i.e. colorant manufacturer or colorant user)
- by respondents' job (i.e. technical staff; personnel staff; senior managerial staff; production staff – see Table 1, p57)[25]
- by NVQ experience (i.e. the views of companies that had implemented NVQs at some stage and those that had not)
- by company size (based on number of employees)
- by order of response to the questionnaire (i.e. to the 1st or 2nd mailing).

The findings as they relate to each of the six survey questions and, where appropriate, SPSS-generated tables,[26] are summarised under the following thematic headings. (The actual questions as they appeared in the questionnaire are included as Appendix 2.)

[24] All calculations were based on the 'valid percent' figure generated by SPSS (i.e. cases for which data is missing (other than 'don't knows') were excluded).

[25] It should be noted that the category 'production staff' in this case refers to the technical production staff working in the production environment who are responsible for the technicalities associated with the bulk manufacture of colorants (in the manufacturing sector) or the bulk coloration of the substrate (in the using sector). The category 'technical staff' refers to those, normally laboratory-based staff, who are employed in testing, R&D or laboratory-scale production. However, both categories would as a rule pursue identical qualification routes.
Responses from the 'miscellaneous' category were deliberately not used because the heterogeneous nature of this group made it impossible to assign any meaningful conclusions to a particular job function.

[26] For most of the questions, there were four levels of response. However, for ease of assimilation of the data, in the following tables the 'positive' levels (i.e. 'agree' and 'strongly agree') have been combined as have the two 'negative' response levels. Attention has been drawn to instances where there was a preponderance of 'strong' levels of response in either direction.

**FINDINGS FROM THE DATA**

**1. *Contribution of the workforce's scholastically acquired knowledge (as distinct from that gained experientially) to the organisation's well-being***

Question 1 of the survey was designed to address the issue contained in the first research question for the study that relates to employers' level of satisfaction with the current education and training system; and, beyond that, what degree of importance they placed on its relevance to their organisations. Respondents were asked for their views on whether, and to what extent, the scholastically acquired knowledge of their respective workforces had impacted on various facets of their respective company's organisational well-being in terms of its contributing to profitability, competitiveness, sustainability and improved products or processes. Table 4 over gives their level of responses:

***Table 4***

Thinking about the scholastically acquired knowledge of your workforce (as distinct from that gained experientially), to what extent do you feel that this has contributed to the following aspects of your organisation's well-being:

| | SECTOR | | | JOB OF RESPONDENT | | | | EXPERIENCE OF NVQs | | COMPANY SIZE | | | | | MAILING | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **profitability** | | | | | | | | | | | | | | | | |
| | All | Man'f | Users | Tech'l | HR | Manag'l | Prod'n | No | Yes | 0-49 | 50-99 | 100-149 | 150-199 | 200+ | 1st | 2nd |
| no contbn | *44* | *29* | *56* | *17* | *20* | *54* | *33* | *41* | *47* | *42* | *67* | *25* | *0* | *50* | *44* | *40* |
| contributes | *56* | *71* | *44* | *83* | *80* | *46* | *67* | *59* | *53* | *58* | *33* | *75* | *100* | *50* | *56* | *60* |
| **competitiveness** | | | | | | | | | | | | | | | | |
| | All | Man'f | Users | Tech'l | HR | Manag'l | Prod'n | No | Yes | 0-49 | 50-99 | 100-149 | 150-199 | 200+ | 1st | 2nd |
| no contbn | *57* | *48* | *64* | *33* | *40* | *67* | *50* | *59* | *53* | *62* | *78* | *25* | *33* | *25* | *61* | *40* |
| contributes | *43* | *52* | *36* | *67* | *60* | *33* | *50* | *41* | *47* | *38* | *22* | *75* | *67* | *75* | *39* | *60* |
| **sustainability** | | | | | | | | | | | | | | | | |
| | All | Man'f | Users | Tech'l | HR | Manag'l | Prod'n | No | Yes | 0-49 | 50-99 | 100-149 | 150-199 | 200+ | 1st | 2nd |
| no contbn | *46* | *38* | *52* | *50* | *40* | *50* | *33* | *48* | *42* | *42* | *67* | *25* | *33* | *50* | *50* | *30* |
| contributes | *54* | *62* | *48* | *50* | *60* | *50* | *57* | *52* | *58* | *58* | *33* | *75* | *67* | *50* | *50* | *70* |
| **improved products etc** | | | | | | | | | | | | | | | | |
| | All | Man'f | Users | Tech'l | HR | Manag'l | Prod'n | No | Yes | 0-49 | 50-99 | 100-149 | 150-199 | 200+ | 1st | 2nd |
| no contbn | *38* | *43* | *35* | *17* | *40* | *44* | *17* | *46* | *26* | *48* | *33* | *0* | *0* | *50* | *42* | *27* |
| contributes | *62* | *57* | *65* | *83* | *60* | *56* | *83* | *54* | *74* | *52* | *67* | *100* | *100* | *50* | *58* | *73* |

It is immediately apparent that, overall, opinion is divided on the perceived contribution that scholastically acquired knowledge makes. However, with the exception of its contributing to organisational competitiveness, there is a marginal majority acknowledgement of its value. On the other hand, when looked at sectorally, differences in opinion are much more marked with support for knowledge being shown by the majority of colorant-manufacturing companies across all four organisational aspects. By contrast, with the exception of improved products and processes, the majority of the colorant-using sector is not convinced about its usefulness.

Looking at the aspects of organisational well-being in detail, in terms of the financial interests of their particular organisations, it is clear that respondents representing the technical staff (83%) and the personnel (80%) staff believe that the disciplinary knowledge gained didactically by the workforce is a major factor in contributing to their respective companies' profitability, whereas the senior management in these companies (46%) appear to be less convinced on this aspect. On a sector-by-sector basis, 71% of respondents from the colorant manufacturing sector (as opposed to only 44% from the colorant using sector) equate scholastic knowledge with company profit. This difference lends support to my earlier contention regarding the emphasis placed on technical knowledge in the more 'scientific', research-based manufacturing organisations against the 'hands-on', experiential traits valued by the more practical-orientated colorant using companies.

With regard to the remaining three organisational aspects (competitiveness, sustainability, improved products, etc), it is posited that profit is inextricably linked to these, and it is therefore reasonable to assume that the pattern of responses would be similar in each case. This assumption is vindicated by the trend for technical staff

to identify the part played by knowledge in enhancing inter-organisational competitiveness and improving products and processes whilst senior management remain less assured, particularly in relation to its leverage potential alongside the competition. The level of support demonstrated by the technical staff could, of course, be based on an inherent perception that their technical contribution automatically adds value to a product or process rather than on any more tangible cause; or, it may simply stem from a desire to justify their attainment of a particular level of qualification. However, it is notable that the majority of production staff (83%) also value knowledge as contributing to improvement in that area.

Interestingly, with regard to this particular aspect, there is a reversal in the levels of agreement between the two sectors with only just over half of the manufacturers, as opposed to two-thirds of users, indicating that a knowledgeable workforce results in an improved product or process. This reduction in support within the former sector (57%) is consistent with the also reduced proportion (52%) that believes that knowledge ensures competitiveness, which is possibly indicative of an impression that, in their organisations at least, disciplinary knowledge contributes to the day-to-day operation of the company (and hence its sustainability and profitability) whilst providing little in the way of product development or improvement.[27]

On the issue of the influence of maintaining a sound knowledge base on the future well-being of their organisations, staff in general appear to be more evenly divided, which perhaps reflects their powerlessness – in spite of the extent of their combined

[27] The position here is that, in manufacturing plants, a substantial measure of technical knowledge is required to maintain the production function (i.e. the status quo in terms of a company's activities). However, having that knowledge does not automatically guarantee that an individual will be capable of engaging in the more creative 'blue-sky' type of thinking needed for researching and developing new products. By contrast, the colorant-using part of the industry is far less reliant on creativity, thus it is far easier to 'add value' to a process through the application of one's existing technical knowledge without being particularly inventive.

knowledge – in not being able to exert control over the vagaries of market forces in order to ensure the future survival of their companies.

Turning to the potential differences in attitude between those companies having, and those without, experience of offering NVQs, the views on the influence of knowledge on profitability, competitiveness and sustainability are fairly evenly balanced between the two. However, in relation to its effect on improvement to products and processes, there is a distinct difference whereby those with experience of NVQs (74%) rate knowledge more highly than those without (54%). This difference was somewhat unexpected given the attenuation of disciplinary knowledge within NVQ programmes. Yet, as indicated later in this section, there was a tendency for companies that had offered the programmes to defend knowledge and knowledge-led external courses.

Although the tabulated results above are largely self-explanatory, attention needs to be drawn to certain points: first, there appears to be a quantitative correspondence between the results of colorant users and the managerial staff across both sectors, who have responded in almost exactly the same figures. It was initially suspected that this may have been the result of each category comprising one and the same group of respondents, i.e. all the managerial staff coming from the using sector. However, as the following breakdown of respondents' occupations on a sectoral basis shows, this is not strictly the case, with less than two-thirds of managers being in the 'user' and 'managerial' response categories:

**Respondent functions (colorant manufacturers)**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Technical | 4 | 19.0 | 19.0 | 19.0 |
| | HR/Personnel | 3 | 14.3 | 14.3 | 33.3 |
| | Executive/Senior Management | 9 | 42.9 | 42.9 | 76.2 |
| | Production | 2 | 9.5 | 9.5 | 85.7 |
| | Other (sales, etc) | 3 | 14.3 | 14.3 | 100.0 |
| | Total | 21 | 100.0 | 100.0 | |

**Respondent functions (colorant users)**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Technical | 2 | 7.7 | 7.7 | 7.7 |
| | HR/Personnel | 2 | 7.7 | 7.7 | 15.4 |
| | Executive/Senior Management | 16 | 61.5 | 61.5 | 76.9 |
| | Production | 4 | 15.4 | 15.4 | 92.3 |
| | Other (sales, etc) | 2 | 7.7 | 7.7 | 100.0 |
| | Total | 26 | 100.0 | 100.0 | |

Although this information does not contribute to the findings of the study, it is included here simply to illustrate that the two categories of respondent are in fact different.

The second point worth noting is the relatively high take-up of NVQs by the industry with over 40% of responding companies having had experience of them:– nine colorant using organisations (representing 35% of that sector) and ten manufacturing companies (48% of the sector)[28]:

[28] The intention of the survey was to ascertain in what occupational areas, and at what levels, companies had experience of the NVQ system. Consequently, there is no indication as to the actual proportion of the workforce that was undertaking them in relation to other qualifications, or whether or not companies had continued to offer them.

**Experience of NVQs (colorant manufacturers)**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Experience of NVQs | 10 | 47.6 | 47.6 | 47.6 |
| | No experience | 11 | 52.4 | 52.4 | 100.0 |
| | Total | 21 | 100.0 | 100.0 | |

**Experience of NVQs (colorant users)**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Experience of NVQs | 9 | 34.6 | 34.6 | 34.6 |
| | No experience | 17 | 65.4 | 65.4 | 100.0 |
| | Total | 26 | 100.0 | 100.0 | |

Finally, it is noted that the strength of opinion on a number of aspects within the survey varies markedly between those who responded initially and those who submitted responses following the second mailing. A similar distinction is also observed between respondents representing the larger sized and the smaller organisations.

In summary, then, most of the support for the view that having a knowledgeable workforce has contributed to the overall well-being of the industry comes from the manufacturing sector and is endorsed by those working in technical, personnel and production capacities within that sector. With the exception of its effect on enhancing products and processes, the colorant using sector is much more reticent to believe that knowledge contributes to other organisational aspects, with senior management from both sectors being even more sceptical about its possible benefits.

**2. *Perceived extent of benefit of externally and internally acquired knowledge and skills to the organisation***

As with question 1, the intention here was to seek out the views of the industry towards the value of current *external* courses to their respective organisations and, additionally, to ascertain how these are judged with respect to their own, in-house training. Table 5 over gives the level of responses:

***Table 5***

In relation to how the knowledge and skills of your workforce was acquired, please rate the extent to which you feel each source has been beneficial to your organisation overall:

| SECTOR | JOB OF RESPONDENT | EXPERIENCE OF NVQs | COMPANY SIZE | MAILING |
|---|---|---|---|---|

**External courses**

| | All | Man'f | Users | Tech'l | HR | Manag'l | Prod'n | No | Yes | 0-49 | 50-99 | 100-149 | 150-199 | 200+ | 1st | 2nd |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| no benefit | *43* | *29* | *54* | *33* | *20* | *56* | *33* | *50* | *32* | *44* | *44* | *50* | *33* | *25* | *47* | *27* |
| beneficial | *57* | *71* | *46* | *67* | *80* | *44* | *67* | *50* | *68* | *56* | *56* | *50* | *67* | *75* | *53* | *73* |

**In-house training**

| | All | Man'f | Users | Tech'l | HR | Manag'l | Prod'n | No | Yes | 0-49 | 50-99 | 100-149 | 150-199 | 200+ | 1st | 2nd |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| no benefit | *9* | *10* | *8* | *0* | *0* | *13* | *17* | *11* | *5* | *8* | *11* | *5* | *0* | *0* | *6* | *20* |
| beneficial | *91* | *90* | *92* | *100* | *100* | *87* | *83* | *89* | *95* | *92* | *89* | *75* | *100* | *100* | *94* | *80* |

Predictably, the pattern of responses in relation to the external provision is almost identical to the overall pattern in response to the previous question. However, the most significant finding is the overwhelming support for internal training across all respondent categories.

With respect to the external courses, the majority of support emanates from the manufacturing sector (71%), the personnel staff (80%) and, to a lesser extent but nonetheless positive, the technical and the production staff (each 67%). Again, just over a half (56%) of managerial staff seem to be not persuaded about possible benefits arising from the external education and training system. However, by contrast, the position is reversed in relation to in-house training with 87% of this group favouring their respective internal arrangements. This stance conforms to earlier observations concerning employers' preference for a 'pared down' form of education and training that is wholly concentrated on meeting production targets and ensuring that the 'bottom line' is achieved. As an MD in one colorant-using company claimed in a supplementary comment to the questionnaire:

"Degrees and NVQs are merely a reflection of that pre-occupation with measuring and defining rather than with what is essential: getting the job done—better, faster, cheaper. They have become a very expensive distraction rather than being of cost-effective assistance."

Clearly, all respondents can be seen to exhibit a high regard for the alleged benefits provided by their own organisations' training provision; and, once more, it was predictable that there is a particularly high measure of support for this mode of preparation from those companies with experience of NVQs. What is perhaps surprising is the high level of support also given by this group of respondents to *externally* provided knowledge and skills.

As is the case in relation to a number of other variables, there is a marked difference in the degree of support for external qualifications between the first and second order cohort of respondents (53% and 73% respectively). To eliminate the possibility of this difference resulting as a consequence of the latter cohort belonging predominantly to one or more of the supporting factions (viz. manufacturers, HR/personnel staff, NVQ providers, or the larger-sized organisations) its composition was analysed with respect to each of these four groups:

**Company type (2nd mailing)**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Colorant manufacturer | 3 | 27.3 | 27.3 | 27.3 |
| | Colorant user | 8 | 72.7 | 72.7 | 100.0 |
| | Total | 11 | 100.0 | 100.0 | |

**Respondent's function (2nd mailing)**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Technical | 1 | 9.1 | 9.1 | 9.1 |
| | HR/Personnel | 0 | 0 | 0 | 0 |
| | Executive/Senior Management | 6 | 54.5 | 54.5 | 63.6 |
| | Production | 3 | 27.3 | 27.3 | 90.9 |
| | Other (sales, etc) | 1 | 9.1 | 9.1 | 100.0 |
| | Total | 11 | 100.0 | 100.0 | |

**Company's experience with NVQs (2nd mailing)**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | no | 7 | 63.6 | 63.6 | 63.6 |
| | yes | 4 | 36.4 | 36.4 | 100.0 |
| | Total | 11 | 100.0 | 100.0 | |

**Size of company (2nd mailing)**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 0-49 | 5 | 45.5 | 45.5 | 45.5 |
| | 50-99 | 3 | 27.3 | 27.3 | 72.7 |
| | 100-149 | 2 | 18.2 | 18.2 | 90.9 |
| | 200 and over | 1 | 9.1 | 9.1 | 100.0 |
| | Total | 11 | 100.0 | 100.0 | |

It is evident from the above breakdown that the higher figure of 73% for the secondary mailing cohort is not attributable to an overlap with any of the supporting group(s). In fact, it can be seen that the converse is the case with the majority of the secondary mailing cohort comprising respondents from the groups *least* supportive of external qualifications. The result suggests – as originally surmised – that there may be a statistically significant difference between the two mailing cohorts, and similar effects are also noted in the following sections.

Finally, respondents were asked to provide information relating to any other sources of education and training undertaken by their staff. This was to take account of knowledge and skills acquired experientially or more informally (for example, through attendance at seminars or occasional training sessions that are provided by the universities/colleges, training associations and professional bodies). In total, thirty-nine organisations had had some experience of other, less formal, types of training, though only fourteen furnished any details other than to rate its perceived degree of usefulness. The majority that did give details cited 'actually doing the job' and 'hands-on knowledge' as the 'other source'; in fact, all the production-orientated staff (i.e. those at the 'sharp end' of practice) who commented felt that experiential learning was beneficial or highly beneficial. Only one company had concluded that courses provided by external training bodies had been of little benefit. One respondent referred to the usefulness of short-term courses such as training in Information Technology. Another individual was of the opinion that, complementary to formal training, a great deal could be learned in terms of improving product standards from professional contact with leading organisations in the field:

"Networking with the 'best-practice club' has given us the ability to benchmark ourselves in a number of areas."

This latter view accords with Engeström's recognition of the role of *horizontal interaction* between groups of workers in helping them to learn and create new knowledge "through the collective solving of problems" (Fuller *et al,* 2005, p53).

This section has served to point up what was indicated in the previous section regarding the marked contrast between support for external courses between the manufacturing sector (71%) and the using sector (46%). It has also demonstrated the unequivocal importance that the industry places on its internal training, as was revealed by several written comments accompanying the questionnaires as well as the numerical evidence. The high level of support given to the benefit accruing from externally gained knowledge and skills from the cohort with NVQ experience may be an indication of a shortcoming in NVQ programmes. Similarly, the reference above to the usefulness of short-term, external courses in Information Technology may be indicative of a gap in the provision in the area of IT.

**3. *Changes employers would like to see made to the external education and training system for the industry***

In the third section, respondents were asked to state whether or not they felt that any changes needed to be made to the present external education and training system; and, if so, to indicate what aspects they would like to see modified and for what reason. Responses to this question were deemed to be particularly important since they directly address one of the central issues of the inquiry, namely to identify any perceived shortcomings in the currently available schemes.

A breakdown of the percentage responses from those who believe that some measure of change is necessary is given in Table 6 over. Included for comparison are the corresponding figures from Table 5 showing the proportion that felt that

externally acquired education and training provides little of no benefit to their respective organisations:

***Table 6***

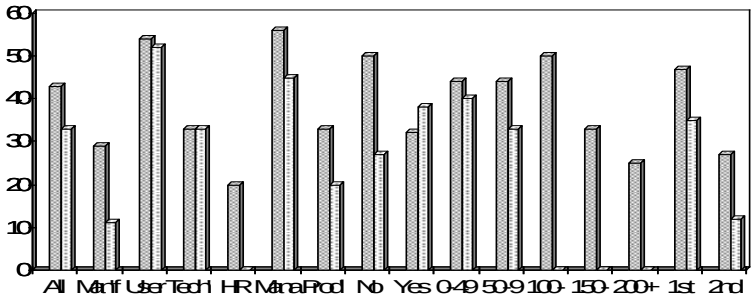
With regard to the *external* education and training system for the industry currently provided by universities, training bodies, etc, are there any aspects that you would like to see changed?

| SECTOR | JOB OF RESPONDENT | EXPERIENCE OF NVQs | COMPANY SIZE | MAILING |
|---|---|---|---|---|

**External courses**

| | All | Man'f | Users | Tech'l | HR | Manag'l | Prod'n | No | Yes | 0-49 | 50-99 | 100-149 | 150-199 | 200+ | 1st | 2nd |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| changes needed | *33* | *11* | *52* | *33* | *0* | *45* | *20* | *27* | *38* | *40* | *43* | *0* | *0* | *0* | *35* | *12* |
| no benefit* | *43* | *29* | *54* | *33* | *20* | *56* | *33* | *50* | *32* | *44* | *44* | *50* | *33* | *25* | *47* | *27* |

* Included for comparison are the corresponding figures from Table 5 showing the proportion of respondents that felt that externally acquired education and training provides little or no benefit to their respective organisations. As illustrated by the graphical representation below, the responses for both categories follow an approximately identical pattern:




= changes needed

= no benefit

One of the more noticeable features of the results is that, of the respondents that perceived little benefit in the external VET system, fewer were prepared to sanction or suggest changes to the status quo. A reason for their apparent reticence may be the 'imposition' of having to provide details about the nature of the changes they perceive to be necessary (though, as the subsequent qualitative analysis reveals (Chapter 5), their ignorance of the system may be the real reason). In fairness, though, the two issues, although related, are not strictly one and the same: the earlier question (question 2) relates to the perceived benefit to their *organisations* of what is gained by employees from the external system and not to the nature and organisation of the courses as such, which may be perceived as being of a more personal value. Even so, fourteen out of the forty-two companies that responded to this question (five abstained) expressed their dissatisfaction with the present situation, colorant users outnumbering manufacturers by six to one. The level of dissatisfaction was slightly greater among companies that had offered NVQs. With regard to the 'mailing' cohorts, it can readily be observed that there is a discernible margin between the two with the secondary respondents displaying a greater measure of complacency.

Of the fourteen companies that wished to see some form of alteration to the system (twelve of them being from the colorant using sector), all commented on what form they felt this should take. In terms of the curricular content of courses, almost all wanted these to be more industry relevant calling for the need to include what they described as "more practical-based aspects" or "more practical/industrial content". In particular, the professional and degree courses were singled out as being "too academic" or for "not cover[ing] sufficiently the practicalities". The Managing Director of one company declared that "the generality of existing courses undermines their value" and even went as far as to propose that their content should relate specifically to the range of activities of particular companies. The same individual was dismissive

of all qualifications (including NVQs) and was disillusioned by the country's education system generally, which he felt placed

"…an unrealistic emphasis upon the achievement of academic qualification at every level, and failed to recognise the importance of the acquisition of craft and trade skills that enable industry to function and, in doing so, failed the very people education was intended to assist".

Given the overall tenor of his subsequent comments, it was evident that he believes that 'the very people education was intended to assist' are in fact employers, as he later questions rhetorically:

"Has the expansion of the Higher and Further Education system enabled the expansion and growth of manufacturing industry in this country, or has the additional funding required [for] achieving this [expansion of HE and FE] pushed manufacturing costs beyond that which is sustainable?".

Taking a similar stance, a Director (herself a professionally qualified graduate) of a smaller organisation admitted that she could not support the investment in extramural training for her staff, and that the company survived by dint of her own technical knowledge. At the same time, however, she expressed her concern for the company's longer-term continuity whilst, paradoxically, attesting to the value of having a well-trained workforce:

"In ten years' time, there will be no-one left with technical expertise. There can't be many firms left … large enough to train people as I was trained".

With regard to mode of delivery, there was unequivocal support for work-based training. Two companies had also proposed the introduction of distance-learning programmes. The reasons given by those favouring this approach mirrored their desire to see the content of courses tied in more specifically to the manufacturing and/or production requirements of their companies. Interestingly, none of these companies had ever offered an NVQ programme. One negative aspect of workplace delivery – as observed by Ryan and Unwin (2001) in relation to Modern

Apprenticeship schemes – is that formal training can easily become subverted as merely an extension of a person's everyday work-role which, as Fuller and Unwin later demonstrate, may or may not provide sufficient "opportunities for personal development" (2003, p411) depending on the training programme's position on what they refer to as an *expansive—restrictive* participatory continuum. However, one Managing Director who supported a work-centred form of provision did recognise the need to preserve a day-release arrangement for this; and another Director took the humanistic view that courses should be organised to cater for *students'* own circumstances.

In relation to the methods by which learning should be assessed, there was a general preference for assessment by procedures other than solely by end-tests. Several felt that there was a need for more 'continuous assessment' (based on coursework in one case). Only one respondent (a Technical Director based in the manufacturing sector) specified assessment by end-of-course examinations.

As alluded to at the beginning of this section, question 3 of the survey provided an opportunity for employers to express their views on how any perceived deficiencies in the external education and training system might be remedied. However, their views were not particularly constructive and were certainly single-minded, concentrating on making workplace practice the focal point of the external provision. This was especially so in the case of the colorant-using sector —a position that is reinforced by the findings from the qualitative data (Chapter 5).

**4. *Intrinsic and extrinsic benefits of VET***

In the fourth part of the questionnaire, respondents were asked to signify, on a scale of 1 to 4, the degree of importance that they personally attached to a number of expected 'outcomes' to be gained by their employees as a result of their exposure to

the current education and training system. Some of the issues related to obvious benefits to the organisation (for example, as contributing to the prosperity of the company or the appreciation of company values). Others were focused on the intrinsic benefits to the employee. The intention here was to attempt to gain an understanding of what perspectives different employers held on the purposes of vocational education, i.e. whether from an economic–instrumentalist stance or a more liberal–humanist position, the assumption being that there is an underlying correlation between a preference for the economic purposes of education and training and support for displacing the present broad-based, discipline-led vocational learning programmes by narrow, skill-specific, competence-based forms.

Table 7 over shows the perceived levels of importance given to the ten outcomes by the different categories of respondent. The outcomes have been labelled as *intrinsic* where there is an obvious benefit to the employee or as *extrinsic* where the benefit is aimed specifically at the organisation.[29] For ease of assimilation, the 'low importance' responses (ratings 1 and 2) have been combined, as have the 'high importance' responses (ratings 3 and 4).[30] For the same reason, the 'intrinsic' and 'extrinsic' results have been grouped as separate entities, though in the questionnaire itself they were alternated in order to avoid having a polarised format.

[29] It is acknowledged that there is no absolute distinction between what may be regarded as intrinsic and extrinsic features. However, for analytical purposes, the labels are used to denote employer orientations on a continuum between organisational and personal benefits.

[30] Where there was a particularly large proportion of strong ratings in either direction (i.e. 50% or more 1s or 4s), the figures for the combined responses (1s/2s and 3s/4s) are given in bold type.

***Table 7***

In relation to what the present education and training system provides, please rate what degree of importance you personally would place on the following outcomes:

| SECTOR | JOB OF RESPONDENT | EXPERIENCE OF NVQs | COMPANY SIZE | MAILING |
|---|---|---|---|---|

**Contributing to the prosperity of the company *[extrinsic]***

| | All | Man'f | Users | Tech'l | HR | Manag'l | Prod'n | No | Yes | 0-49 | 50-99 | 100-149 | 150-199 | 200+ | 1st | 2nd |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| low imp'nce | *30* | *29* | *30* | *0* | *20* | *48* | *0* | *35* | *22* | *40* | *25* | *0* | *0* | *25* | *26* | *44* |
| high imp'nce | *70* | *71* | *70* | **100** | *80* | *52* | *100* | *65* | *78* | *60* | *75* | **100** | *100* | *75* | *74* | *56* |

**Providing greater awareness of company rules, administration procedures, etc *[extrinsic]***

| | All | Man'f | Users | Tech'l | HR | Manag'l | Prod'n | No | Yes | 0-49 | 50-99 | 100-149 | 150-199 | 200+ | 1st | 2nd |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| low imp'nce | *40* | *38* | *42* | **50** | *0* | *56* | *0* | *44* | *33* | *52* | *56* | *0* | *0* | *0* | *43* | *30* |
| high imp'nce | *60* | *62* | *58* | *50* | **100** | *44* | *100* | *56* | *67* | *48* | *44* | *100* | *100* | *100* | *57* | *70* |

**Fostering an entrepreneurial spirit *[extrinsic]***

| | All | Man'f | Users | Tech'l | HR | Manag'l | Prod'n | No | Yes | 0-49 | 50-99 | 100-149 | 150-199 | 200+ | 1st | 2nd |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| low imp'nce | *60* | *62* | *58* | *33* | *40* | *61* | *83* | *63* | *56* | *60* | *56* | *75* | *67* | *50* | *54* | *80* |
| high imp'nce | *40* | *38* | *42* | *67* | *60* | *39* | *17* | *37* | *44* | *40* | *44* | *25* | *33* | *50* | *46* | *20* |

**Fostering the 'right' attitude to work, including such requirements as the need for good time-keeping *[extrinsic]***

| | All | Man'f | Users | Tech'l | HR | Manag'l | Prod'n | No | Yes | 0-49 | 50-99 | 100-149 | 150-199 | 200+ | 1st | 2nd |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| low imp'nce | *38* | *52* | *25* | *33* | *20* | *48* | *33* | *41* | *33* | *52* | *22* | *25* | *33* | *0* | *40* | *30* |
| high imp'nce | *62* | *48* | *75* | **67** | *80* | *52* | **67** | *59* | *67* | *48* | *78* | **75** | **67** | **100** | *60* | **70** |

***Table 7 (cont'd)***

**Developing employees' verbal and communication skills *[intrinsic]* ***

| | All | Man'f | Users | Tech'l | HR | Manag'l | Prod'n | No | Yes | 0-49 | 50-99 | 100-149 | 150-199 | 200+ | 1st | 2nd |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| low imp'nce | *27* | *19* | *33* | *0* | *0* | *35* | *17* | *33* | *17* | *32* | *33* | *25* | *0* | *0* | *26* | *30* |
| high imp'nce | *73* | *81* | *67* | **100** | **100** | *65* | *83* | *67* | **83** | *68* | *67* | **75** | **100** | **100** | *74* | *70* |

**Creating an opportunity for personal development *[intrinsic]***

| | All | Man'f | Users | Tech'l | HR | Manag'l | Prod'n | No | Yes | 0-49 | 50-99 | 100-149 | 150-199 | 200+ | 1st | 2nd |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| low imp'nce | *20* | *14* | *25* | *17* | *0* | *30* | *0* | *26* | *11* | *24* | *22* | *25* | *0* | *0* | *20* | *20* |
| high imp'nce | *80* | *86* | *75* | **83** | **100** | *70* | **100** | *74* | *89* | *76* | *78* | **75** | *100* | **100** | *80* | *80* |

**Contributing to employee job satisfaction *[intrinsic]* ***

| | All | Man'f | Users | Tech'l | HR | Manag'l | Prod'n | No | Yes | 0-49 | 50-99 | 100-149 | 150-199 | 200+ | 1st | 2nd |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| low imp'nce | *21* | *20* | *21* | *0* | *0* | *30* | *20* | *30* | *6* | *28* | *22* | *0* | *0* | *0* | *17* | *33* |
| high imp'nce | *79* | *80* | *79* | *100* | *100* | *70* | *80* | *70* | *94* | *72* | *78* | **100** | *100* | *100* | *83* | *67* |

**Imparting interpersonal skills *[intrinsic]* ***

| | All | Man'f | Users | Tech'l | HR | Manag'l | Prod'n | No | Yes | 0-49 | 50-99 | 100-149 | 150-199 | 200+ | 1st | 2nd |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| low imp'nce | *29* | *19* | *37* | *0* | *20* | *39* | *33* | *30* | *28* | *32* | *33* | *25* | *0* | *25* | *26* | *40* |
| high imp'nce | *71* | *81* | *63* | *100* | *80* | *61* | *67* | *70* | *72* | *68* | *67* | *75* | *100* | *75* | *74* | *60* |

***Table 7 (cont'd)***

**Developing a commitment to self-improvement *[intrinsic]***

| | All | Man'f | Users | Tech'l | HR | Manag'l | Prod'n | No | Yes | 0-49 | 50-99 | 100-149 | 150-199 | 200+ | 1st | 2nd |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| low imp'nce | *20* | *14* | *25* | *17* | *0* | *22* | *33* | *30* | *30* | *24* | *11* | *50* | *0* | *0* | *14* | *40* |
| high imp'nce | *80* | *86* | *75* | **83** | **100** | *78* | *67* | *70* | *70* | *76* | *89* | **50** | *100* | **100** | *86* | *60* |

**Enhancing employee self-esteem *[intrinsic]* ***

| | All | Man'f | Users | Tech'l | HR | Manag'l | Prod'n | No | Yes | 0-49 | 50-99 | 100-149 | 150-199 | 200+ | 1st | 2nd |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| low imp'nce | *18* | *9* | *25* | *0* | *0* | *30* | *17* | *22* | *11* | *20* | *11* | *50* | *0* | *0* | *14* | *30* |
| high imp'nce | *82* | *91* | *75* | **100** | *100* | *70* | *83* | *78* | **89** | *80* | *89* | **50** | *100* | *100* | *86* | *70* |

* N.B. Though described as intrinsic, these particular aspects could equally be regarded as organisational benefits and thus occupy a mid position on the continuum.

Interestingly, the pattern that emerged from the results taken as a whole was that employers favour intrinsic over extrinsic benefits with a higher majority of respondents attaching a greater deal of importance to issues that are of direct benefit to the individual rather than to the organisation

Looking in detail first at what are unequivocally four extrinsic 'returns' in human capital terms from vocational education, the indication is that there is a general expectation by employers that part of what their employees acquire from the system should translate into company benefits (specifically increased profitability, a commitment to the company's ethos, and a better understanding of its organisational functions). In view of these beliefs, it is therefore puzzling that companies do not appear to consider it particularly fundamental for the system to engender a proclivity for entrepreneurialism, only the technical and personnel staff giving overall majority support for this. One possibility is that respondents may have equated the term 'entrepreneurial spirit' with 'salesmanship', or as representing some senior decision-making position within their organisations that is essentially territorially demarcated by hard-nosed, boardroom executives, not to be engaged in by technical staff.

As expected, given their administrative backgrounds, HR/Personnel departments overwhelmingly regarded an indoctrination in the company's rules, procedures, etc as a priority. However, somewhat surprisingly by reason of their operating in similar circumstances, this view was not shared by the greater part of senior management which, in all but this aspect, has shown itself to be evenly divided.

There was little variation in opinion towards extrinsic values between the two sectors except with regard to promoting the company's ethos, rules, etc, which was favoured by 75% of colorant users as opposed to a minority (48%) of manufacturers. As with earlier questions, there is a clear distinction between the two mailing cohorts. In this

case, it is evident that those who responded to the second mailing, like the colorant using sector, gave a high measure of support to the importance of promoting company ethos but were less enthusiastic about the inculcation of the business ethic with its emphasis on ways of increasing profits, encouraging entrepreneurialism, etc. In fact, the secondary respondents were consistently less inclined towards intrinsic values throughout.

Turning to the intrinsic features of the system, employee personal development (80%), job satisfaction (79%), self-improvement (80%) and self-esteem (82%) received the highest levels of positive responses. As a sector, manufacturers gave greater prominence to the value of ensuring personal 'returns' than did the colorant users (especially with regard to the dually beneficial communication and interpersonal skills); even so, a substantial majority of the using sector still signifies its support for intrinsic benefits. Moreover, the majority of managerial respondents – who, in relation to many of the earlier points, have been the least polarised in their views – have demonstrated their appreciation of the necessity to consider human resource needs as well as organisational imperatives. Those companies which have had experience of NVQs were generally much more supportive of the humanist elements of training than were those companies without experience of them; however, they were also similarly disposed towards company-specific elements hence it is difficult to come to any meaningful conclusion on this aspect.

In conclusion, the emphasis placed on intrinsic benefits is noteworthy, especially that of the managerial cohort with its mainly business interests. However, this has to be weighed against the level of support given to what are obviously organisational benefits, which is also high. Thus, it would be misguided to automatically understate the importance of the latter to employers or to overlook what potential benefits they see intrinsic elements as having for their organisations.

**5. *Employers' experiences of NVQs***

Companies were asked about their experiences of NVQ programmes in terms of whether they had ever offered them, at what levels, and in which occupational areas. The primary purpose of the question was not to determine how widespread the qualifications were being used within the industry (although this is of interest), but rather to ascertain the perspectives on them held by those companies which had first-hand knowledge of them. This was important not only from the point of view of informing the relevant research objectives, but also in relation to interpreting the meaningfulness of responses to several subsequent statements in the questionnaire, which require a basic familiarity with the system.

A total of nineteen companies (comprising 48% of the manufacturing sector and 35% of the using sector) had been directly involved with Level 2 colour-technology related NVQs at one time or another. (Several of these companies also had experience of NVQs at Levels 3 and 4, though these were in managerial or clerical-based disciplines.) Analysed by company size, the figures indicate a propensity for NVQs among the larger organisations (i.e. those with more than 150 employees) suggesting that larger companies are likely to be more in touch with developments in this area (as was also concluded in an earlier study by Raggatt, 1994).

**Companies offering NVQs analysed by size**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 0-49 | 7 out of 27 | 36.8 | 36.8 | 36.8 |
| | 50-99 | 5 out of 9 | 26.3 | 26.3 | 63.2 |
| | 100-149 | 2 out of 4 | 10.5 | 10.5 | 73.7 |
| | 150-199 | 2 out of 3 | 10.5 | 10.5 | 84.2 |
| | 200 and over | 3 out of 4 | 15.8 | 15.8 | 100.0 |
| | Total | 19 | 100.0 | 100.0 | |

In this section, only one respondent – an MD of a dyestuff testing laboratory that had previously offered NVQs as part of its staff training – had provided an unsolicited comment on his company's experience of them, his conclusion being to "eliminate NVQs completely".

**6. *Employers' views on education and training generally, with specific reference to competence-based forms***

In the sixth and final section of the questionnaire respondents were presented with fourteen statements with which they were asked to indicate their strength of agreement or disagreement. The statements themselves were framed around issues or concepts associated with the implications of competence-based approaches and other modes of learning for employers, some of which were adapted from the literature or which have become the prevailing orthodoxy in many educational and related circles. Taken together, the statements were designed to uncover employers' thoughts on what aspects of education and training they believe are the most valuable. Their responses are considered in relation to the following themes: (i) the acceptance of NVQs as a suitable preparation for work, (ii) the function of knowledge in the workplace and (iii) the relationship between different types of qualification and employment roles. Several statements were deliberately intended to be provocative, or at least controversial, so as to trigger respondents' gut reactions to the issues being canvassed for investigation. Also, some were recast in a slightly reworded form to check for respondent consistency.

Again, a four-point scale was used to eliminate the chances of obtaining a set of non-committal responses; though, because certain statements necessitated some experience or knowledge of the NVQ system, a 'don't know' category was also included in order to obviate the likelihood of respondents resorting to unsubstantiated and inconsequential conjecture.

The fourteen statements are reproduced in Table 8 on the following page, together with the percentage responses from all respondents:

***Table 8***

Thinking about your own organisation, for the following set of statements, please indicate how strongly you agree or disagree with the sentiments expressed:

| | | Strongly disagree | Disagree | Agree | Strongly agree | Do not know |
|---|---|---|---|---|---|---|
| A) | NVQ assessments are better indicators of an individual's usefulness to the company than are written examinations. | 6 | 9 | 57 | 6 | 22 |
| B) | An employee with a high level of technical knowledge can easily adapt that knowledge to practical situations. | 6 | 30 | 38 | 23 | 2 |
| C) | Sound scholastic knowledge is essential for research and development work to be meaningful. | 4 | 9 | 49 | 38 | 0 |
| D) | Practical experience is of more value than scholastic knowledge. | 0 | 13 | 56 | 24 | 7 |
| E) | All employees, irrespective of their paper qualifications, should obtain a relevant NVQ to demonstrate that they can actually do the job for which they were engaged. | 11 | 53 | 23 | 4 | 9 |
| F) | Good practitioners are generally more valuable on the shop-floor rather than in the boardroom. | 4 | 43 | 34 | 9 | 11 |
| G) | The demonstration of competence in performing a task also implies a command of the underpinning knowledge and understanding required to perform it. | 0 | 19 | 51 | 28 | 2 |
| H) | University graduates are better suited to research and development rather than day-to-day production activities. | 0 | 55 | 32 | 4 | 9 |
| I) | All employees, irrespective of their prior experience, should obtain a relevant NVQ to demonstrate that they can actually do the job for which they were engaged. | 15 | 72 | 4 | 2 | 6 |
| J) | Good research is essential to the development and long-term survival of the company. | 2 | 17 | 47 | 32 | 2 |
| K) | The NVQ model assumes that workplaces will also act as centres of learning; thus, it goes without saying that continuing learning will be an automatic feature of employment. | 2 | 13 | 62 | 9 | 15 |
| L) | Individuals that are not academically inclined are usually unsuitable for senior managerial roles. | 9 | 64 | 19 | 4 | 4 |
| M) | Technical knowledge can easily be acquired by actually doing the job. | 2 | 49 | 43 | 4 | 2 |
| N) | An employee that has gained an appropriate NVQ within another company is more valuable than one that has only undertaken informal in-house training within his/her present company. | 9 | 53 | 21 | 17 | 0 |

*(i) NVQs as a preparation for work (statements A, D[31], E, I, and N):*

In respect of the extent to which employers favour competence and practical experience over written examinations and knowledge, the responses to this section provide something of a rejoinder to employers' earlier stance on job-specific and company-orientated training (questions 1 & 2 of the survey). Thus, with regard to statement (A), 63% either agreed or strongly agreed that NVQ assessments are a better indication of an employee's usefulness to the company than are the results in written tests. It therefore comes as no surprise that in respect of statement (D), a majority of respondents (80% in fact) also valued practical experience above academic knowledge with almost a quarter of all respondents *strongly* believing this to be the more valid form of assessment.

In statement (I), 87% of employers appeared not to perceive any benefit from requiring staff that have relevant prior experience to undertake a competence-based NVQ as a means of demonstrating their ability to perform competently in their work. However, when judgement has to be made on the basis of paper qualifications alone (statement E), a much smaller majority (64%) answered against the requirement. This result coincides with that for statement (A) above in which a similar proportion (63%) is less inclined to base staff selection on examination results exclusively. The apparent lack of enthusiasm for their staff to embark on an NVQ programme cannot however automatically be taken as employer antagonism towards NVQs *per se*. It may simply be an indication that most consider that their staff, having been selected on the basis of their academic and experiential backgrounds, are established in their jobs and that it would consequently be futile to subject them to any further workplace assessment.

[31] Although statement D does not mention NVQs explicitly, it does refer to 'practical experience', which is closely associated with competence and competence-based approaches, and is thus included for analysis in this section of responses.

In relation to statement (N), there is a small, though significant, majority (62%) that values people trained through its own training programme more than those who have gained a relevant NVQ whilst in the employment of another organisation. Again, this stance does not necessarily point to a rejection of the NVQ system, though it does add strength to the earlier findings on the degree of importance that employers attach to their own company-based training schemes, informal or otherwise (see question 2), despite the claims made about the transferable, generic skills provided by NVQ programmes.

As well as considering the overall levels of response, it is useful to examine the responses to the same five statements provided by companies with actual experience of offering NVQs as the primary purpose of this section of the questionnaire was to discern employers' feelings towards the qualifications. The results are given in Table 9 over:

***Table 9***

*N.B. Reponses from companies <u>without</u> NVQ experience are given in brackets. Also, for ease of assimilation, the values for the 'strongly agree' and 'agree' etc responses are combined.*

| | | Strongly disagree / Disagree | Strongly agree / Agree | Do not know |
|---|---|---|---|---|
| A) | NVQ assessments are better indicators of an individual's usefulness to the company than are written examinations. | 21 (11) | 79 (52) | 0 (37) |
| D) | Practical experience is of more value than scholastic knowledge. | 24 (7) | 70 (86) | 6 (7) |
| E) | All employees, irrespective of their paper qualifications, should obtain a relevant NVQ to demonstrate that they can actually do the job for which they were engaged. | 74 (57) | 21 (32) | 5 (11) |
| I) | All employees, irrespective of their prior experience, should obtain a relevant NVQ to demonstrate that they can actually do the job for which they were engaged. | 95 (82) | 5 (7) | 0 (11) |
| N) | An employee that has gained an appropriate NVQ within another company is more valuable than one that has only undertaken informal in-house training within his/her present company. | 74 (68) | 16 (32) | 10 (16) |

In spite of the earlier suggestion made by one employer for the complete elimination of the qualifications, those companies with experience of NVQs appear to be far more convinced in their views than those without about the merit of NVQ assessments, as opposed to written examinations, for making a judgement about an employee's usefulness to the company (79% as opposed to 52%). However, the figure given by this group in respect of favouring practical experience over scholastic knowledge is somewhat lower (70% in total). Nevertheless, 29% of them agreed strongly with the statement.

It is also revealing that 85% of colorant users indicated their support for experiential attributes (though this was to some extent anticipated given the practical nature of

work organisation in this sector). So too did the managerial staff (87%), although the latter were less enthusiastic about deploying NVQ assessments for that purpose with the level of support for the latter falling to 56%.

Notwithstanding the preference for practical experience shown by those companies with experience of NVQs, it is again notable that they would not wish to make attainment of a relevant NVQ a compulsory part of their staff's developmental training: rejection of the idea in respect of employees with prior experience is almost unanimous with (95% disagreeing with statement (I), 21% strongly so. Also, as a category, these companies are among the largest to refute the assertion that an individual with a relevant NVQ obtained while working in another company is more valuable to them than someone that has embarked only on their own company's informal scheme of internal training. Again, this decision is consistent with earlier findings favouring in-house training. However, it may also be indicative of an underlying weakness in the NVQ system's claims to be able to endow a workforce with externally recognised and transferable standards and qualifications (e.g. Fletcher, 1991). Hence again, what is emerging from the results in the above section is that, in spite of employers' desire for an education and training system that puts emphasis on practical competence in the workplace, NVQ programmes are not necessarily the system that they are looking for.

*(ii) How employers view the function of knowledge in the workplace (statements B, C, G, J and M):*

The line of inquiry on which the above five statements are premised is concerned with how employers identify the part played by knowledge in relation to a person's ability to carry out his/her work role satisfactorily. The rationale behind this particular strand is two-pronged: first, it provides an opportunity to revisit the earlier question (question 3 (b)) regarding possible employer preferences for changes to the content

and other features of current training schemes, where the general mood was to favour sacrificing the theoretical content of courses in tandem with intensifying their practical relevance; and second, to address indirectly whether or not employers feel that a competence-based approach to qualifications represents better preparation for actually doing the job than does a qualification gained by the assessment of knowledge alone, especially where the occupation requires a higher order of knowledge, such as the research and development (R&D) function.

Exploring this latter aspect first, 79% of all respondents agreed or strongly agreed that good research is essential for the continued existence and progression of a company (Table 8, p99, statement (J)), and a still larger proportion (87%) agreed that it is vital for such research to have a strong knowledge input (statement (C)). This being the case, the indication is that a high proportion of respondents believe that disciplinary knowledge, as a pre-requisite of – and mediated by the need for – research, is essential to a company's ability to survive in the marketplace. However, this strength of this opinion is not matched by the responses to the earlier question (question 1) concerning the extent to which employers feel that the knowledge acquired by their respective workforces has contributed to organisational sustainability, where only just over a half (54%) subscribed to that view. One explanation for this is that question 1 is concerned with the nature and extent of the knowledge that has already been gained by the workforce through the current education and training system (and which, in respect of certain aspects, has been renounced by employers) whereas that in 6 (C) is undefined in terms of content, etc and is therefore more of a conceptual entity, possibly embracing employers' notions of what they themselves deem to be useful knowledge (for example, in terms of their preference for a more practical emphasis to be given to the content of current courses (question 3 (b)). Alternatively, they may conceive R&D as an embodiment of

specialised, higher-order knowledge pertaining to a minority of workers that are capable of engaging in the sort of ‘blue-sky’ thinking referred to earlier.

As anticipated, sectorally, the higher level of support for knowledge-based research in terms of both statements (95%) comes from the manufacturing sector, which is more directly reliant on an R&D function for its advancement and survival. What was less expected was the high degree of concurrence by companies with NVQ experience, though again it is possible that their interpretation of ‘sound scholastic knowledge’ was premised on that which underpins practice.

The three statements (B), (G) and (M) relate to employers’ assumptions about the comparative values of technical knowledge and practical experience. Their responses may provide a measure of the sort of choices they may make in their recruitment practices faced with candidates being in possession of one or other set of attributes; and, in that context, they serve, albeit obliquely, to provide answers to research question (iii) concerning employers’ attitudes towards the introduction of competence-based approaches at higher levels. With regard to statement (B), a majority (61%) would expect someone with a high level of technical knowledge to be able to translate that knowledge into a given practical situation within the workplace. However, when it comes to the converse situation of acquiring relevant knowledge by dint of engaging in practice (statement (M)), there was less concurrence (47%). On the other hand, 79% held the view that an assumption can be made about an employee’s satisfactory attainment of knowledge and understanding of a task by virtue of the individual being capable of performing it competently (statement (G)). The difference in response levels between the two sectors is only marginal in each case. Those between the NVQ and non-NVQ providers, however, are quite distinct with those companies having experience of the qualifications signifying a higher level

of agreement with all three statements, including (B) concerning the adaptation of knowledge to practice (Table 10):

***Table 10***

*N.B. Reponses from companies <u>without</u> NVQ experience are given in brackets. Also, for ease of assimilation, the values for the 'strongly agree' and 'agree' etc responses are combined.*

| | | Strongly disagree / Disagree | Strongly agree / Agree | Do not know |
|---|---|---|---|---|
| B) | An employee with a high level of technical knowledge can easily adapt that knowledge to practical situations. | 26 (43) | 74 (54) | 0 (4) |
| C) | Sound scholastic knowledge is essential for research and development work to be meaningful. | 5 (18) | 94 (82) | 0 (0) |
| G) | The demonstration of competence in performing a task also implies a command of the underpinning knowledge and understanding required to perform it. | 11 (25) | 89 (72) | 0 (4) |
| J) | Good research is essential to the development and long-term survival of the company. | 11 (25) | 89 (71) | 0 (4) |
| M) | Technical knowledge can easily be acquired by actually doing the job. | 42 (58) | 52 (43) | 5 (0) |

Overall, the inference from the above responses is that employers value technical knowledge, possibly for its own sake, but eminently to support the research function or as a mediator of practical application. Whilst they consider it easier for knowledge to translate into practice rather than the contrary, they judge that if people are capable of carrying out their duties in a competent manner, then their associated knowledge and understanding can be taken as a given (though it is unlikely that

these elements would be assessed formally if the work was being carried out to the employer's satisfaction).

As an adjunct to the above, statement (K) was included to alert employers – particularly those without experience of NVQs – to the expectation that, in the context of the NVQ model, employers will become 'major providers of learning opportunities' for their employees (Jessup, 1991). Its primary aim was not in addressing any particular research question, but to signal to employers the additional liability, resources and time that accompany the shift in responsibility for front-line training away from the college lecture theatre into the workplace. The results indicated that approaching three-quarters of all respondents are in agreement with, and are therefore undaunted by, the prospect of their organisations adopting the additional mantle of 'centre of learning'. There was little disparity in the level of positive responses across all categories, with the exception of the first (67%) and second (82%) mailings. Even 72% of the senior managers (who are ostensibly the final arbiters on training policy) appear not to be in any way apprehensive. However, the inferences should be judged circumspectly as, with hindsight, I feel that the statement fell short of eliciting the information intended: for example, in the confines of the questionnaire, it was not possible to make employers fully aware of the magnitude of the additional employer input required. Moreover, the term 'continuing learning' is undefined and is therefore open to pluralistic interpretation, i.e. continuing learning on the employers' terms could too easily translate into the paradox of an impoverished form of in-company 'off-the-job' training, or simply on-the-job occupational learning (as Ryan & Unwin, 2001 discovered in relation to Modern Apprenticeship schemes). This seems to be the most likely interpretation and would account for the high measure of support given to it, which is commensurate with that for in-house training (as indicated by the responses to question 2).

*(iii) Perceptions regarding status of the qualifications in terms of employment roles (statements F, H and L):*

Statements F, H, and L (Table 8) effectively represent a development on the recruitment issue referred to in the previous section. Their aim is to operationalise the general perspectives employers may hold on NVQs with respect to 'traditional' qualifications in terms of the employment roles to which they are likely to assign – or at least understand as being the most suitable for – individuals qualified on each of these bases. Indirectly, they give an indication of the comparative status of the two forms as perceived by employers.

One general observation is that the majority of respondents did not concur with any of the statements. Another noticeable feature is that, given the fairly controversial and even provocative nature of these three statements, there was a significantly large proportion of 'Don't knows' – at least in respect of the dichotomous statements (F) and (H) where the possibly contentious element was that employee attributes should automatically exclude them from certain positions. Statement (L), probably the most provocative of the three, prompted 73% to disagree with the suggestion that people without any academic proclivity are unlikely to be thought of as senior management material. However, managerial staff themselves were slightly less vociferous than the whole with fewer than two-thirds refuting the idea that technically orientated businesses necessarily require academically orientated people to run them. The highest levels of dissent were voiced by the actual technical staff (surprising given their academic backgrounds) and by the production staff.

Statement (F) is actually a reworking of the above theme. However, in this case, 'practitioners' (the term being understood by the industry as constituting skilled, but non-academic, artisans) are cast in a more favourable light emphasising their strengths in what are nominally production-orientated roles rather than as senior managers. This more positive portrayal of less academically inclined staff resulted in

far fewer (47:43) contesting the sentiment that practically-skilled, non-academics are more valued on the shop-floor than in the boardroom. However, as a group, the managerial cohort gave the highest level of opposition to the proposal, which attests to the findings in (L) above, suggesting that they are not wholly convinced about the necessity to have technocrats within the senior management team.

In the previous section, it was deduced that respondents were committed to ensuring a sound disciplinary knowledge input for realising meaningful R&D. As such, it might therefore have been expected that they would have favoured university graduates taking on the R&D function as opposed to being involved with the more routine, practical aspects of production (statement (H)). Yet, the results showed this not to be the case: 55% of respondents apparently believe that graduates are equally, if not more, suited to a production environment. The position serves to substantiate employers' earlier stance on statement (B) in accepting that technically qualified personnel can readily utilise their conceptual knowledge in a practical function.

A snap-shot of the responses from the NVQ providers/non-NVQ providers in respect of the above three statements is as follows (Table 11):

***Table 11***

*N.B. Reponses from companies without NVQ experience are given in brackets. Also, for ease of assimilation, the values for the 'strongly agree' and 'agree' etc responses are combined.*

| | | Strongly disagree / Disagree | Strongly agree / Agree | Do not know |
|---|---|---|---|---|
| F) | Good practitioners are generally more valuable on the shop-floor rather than in the boardroom. | 42 (50) | 53 (36) | 5 (14) |
| H) | University graduates are better suited to research and development rather than day-to-day production activities. | 42 (64) | 52 (25) | 6 (11) |
| L) | Individuals that are not academically inclined are usually unsuitable for senior managerial roles. | 74 (71) | 26 (21) | 0 (8) |

A comparison between the two cohorts shows little difference between those with experience of NVQs (74%) and those without experience (71%) in respect of statement (L) with neither set of companies deviating significantly from the overall figure of 73% that would not wish to see non-academics excluded from managerial posts. With regard to (F) and (H) however, a far higher proportion of companies with NVQ experience – a majority in fact – agreed with both statements. Thus, in the case of (F), 53% of the companies that had experience of NVQs, compared with 36% of those that had no prior experience, felt that good practitioners were better utilised in the execution of the work rather than engaging in the boardroom decision-making activities leading to its conception; while in the case of (H), the corresponding figures

in favour of consigning graduates to R&D in preference to production activities were 52% and 25%.

The above differences in attitude between the two groups towards the importance of qualifications and/or experience in determining a person's job function is felt to be the most significant finding in this final section. The tendency for those with experience of offering NVQs to attempt to categorise or even demarcate people on the basis of particular traits is a feature that emerged from the qualitative phase, and is discussed in the next chapter.

**CONCLUDING COMMENTS ON THE FINDINGS FROM THE QUANTITATIVE STUDY**

The most significant finding from this part of the study is the single-mindedness with which employers look upon the value of internal training, a view that is consistently supported throughout by both sectors. Where there is an indication that the two sectors differ is in their support for scholastically-attained knowledge which, in contrast with the colorant users, is seen by the majority of manufacturers as contributing to organisational well-being. Interestingly, as a group, companies with NVQ experience also view knowledge as the key to improved products and processes. What is perhaps unexpected from employers overall given their general appreciation of practical experience in favour of academic knowledge, is their apparent rejection of the NVQ system as the appropriate vehicle for delivering high-level technical training. Instead, they tend to look to the current external system (which, paradoxically, they appear to challenge in respect of its emphasis on disciplinary knowledge) to meet their demand for company-specific education and training. This reluctance to sign up to NVQs seems to undermine QCA's earlier claims on employers' satisfaction with and take-up of them. Where employers as a whole do agree on the value of knowledge is in the area of research, though this is focused on short-term organisational needs rather than employee development thus

negating any chance an employee might have of engaging with *deep learning* (Fuller & Unwin, 2003). This is at odds with the importance they give to other intrinsic employee benefits; though, in view of the high value that they also place on business-dependent aspects, their apparent altruism in this area cannot be taken for granted.

Based largely on inferences made from numerical data, the above findings may appear somewhat stark – overstated even. However, they become more significant when viewed against the back-drop of the following qualitative evidence.

# Chapter 5

## ANALYSIS OF THE DATA – INSIGHTS FROM THE QUALITATIVE STUDY

**INTRODUCTION**

As explained in Chapter 3, the research instrument for the quantitative study – the questionnaire – was developed from data deriving from the key issues that had arisen during the interviewing phase. In this chapter, I return to that data using the more substantial full interview transcripts to illuminate the inferences drawn from the quantitative data. With that aim, I have abandoned my original intention of using the data simply to 'flesh out' what I want to know in terms of the research questions and have chosen, as well, to look beyond these to gain a more discursive picture of the context in which the issues raised in response to them are located.

As indicated in the introductory section, references to the term 'employers' denotes those people with strategic responsibility for vocational education and training within their respective organisations. The questionnaire returns indicated that the job functions of those people is quite diverse, comprising senior managerial, personnel, technical and production staff. Background information, including occupations, relating to the six interviewees is given in Table 12 over. Although only two of the six were employed in actual production roles, all had been chosen for their considerable level of expertise in, and responsibility for, qualifications and training for the industry. The wealth of knowledge in this area of the four non-company based personnel was felt to outweigh any disadvantages of their not being directly involved in the production side of the business. Moreover, they had regular contact with manufacturing and/or using organisations within their respective sectors throughout

the UK and, as such, were in a strong position to access the perspectives of employers on the issues for investigation. Viewed through the eyes of people with central roles in the coloration industry's education and training system, some of the inferences drawn from the quantitative data now take on a greater significance and, in certain cases, reveal new insights. However, it is acknowledged that the views expressed are not the first-hand accounts of employers themselves but that these have been mediated by the interviewees.

***Table 12***

| Name* | Position | Nature of business | Background |
|---|---|---|---|
| *Interviewees representing the colorant-using sector* | | | |
| Alan | Training Develop-ment Manager | Sector Industry Training Organisation (ITO) and National Training Organisation (NTO) representing the textile colorant-using industries. | Responsible for managing the organisation's training development function and for overseeing training in approximately 40 companies throughout England, Scotland, Wales and Northern Ireland. |
| Barbara | Training Officer | Sector Industry Training Organisation (ITO) representing the textile colorant-using industries. | Responsible for monitoring and assessing trainees, primarily at NVQ Level 3 but with some at Level 2, based in companies situated mainly within the West Riding of Yorkshire. |
| Carol | Managing Director | Consultancy for education and training on behalf of national training bodies and government agencies. | Currently involved in the development and implementation of Technical Certificates for the textile coloration industry (colorant-using sector) on behalf of the NTO. Former FE lecturer in IT. Research interest includes curriculum changes for IT in FE sector. |
| *Interviewees representing the colorant-manufacturing sector* | | | |
| Diane | Human Resources Manager | Multi-national company manufacturing chemicals, including dyes, pigments and auxiliary products for use in the coloration industries. | Overall responsibility for the company's recruitment and training requirements up to senior technical and managerial levels. |
| Edward | NVQ Site-training co-ordinator | Multi-national company manufacturing chemicals, including dyes, pigments and auxiliary products for use in the coloration industries. | Responsible for all on-site training for management, processing, engineering and laboratory staff. |
| Frank | Training Consultant | Training consultancy for the surface-coatings (paint and ink manufacturing) industries. | External NVQ verifier for City & Guilds in conjunction with the British Coatings Federation (the NTO for the surface-coatings industry) and participating colleges. Former Training Manager for the BCF, part-time college lecturer, and moderator for the former Technician Education Council and its successor the Business and Technology Education Council. Currently moderator for the Open Tech's distance-learning programme for surface-coatings technicians. |

** The interviewees' actual names have not been used in order to preserve their anonymity*

**EMPLOYERS' LACK OF ENGAGEMENT WITH THE INDUSTRY'S EDUCATION AND TRAINING SYSTEM**

The historic failure of UK employers to engage with the education and training system and their tendency to remain ill-informed about the content and significance of vocational courses and qualifications is well documented (e.g. Moore, 1988; Coffield, 1990; Keep & Mayhew, 1994); and it would appear that this trend has continued throughout much of the present-day coloration industry. The qualitative evidence reveals that in many cases, especially among the colorant-using sector, employers appeared not to understand or fully appreciate what the educational establishments are providing, either in terms of educational content or significance of the courses. As Barbara stated in relation to the colorant-using sector of the industry:

"I think the real problem is that people don't know what the qualifications mean. I mean, employers don't understand what's being taught, what it is their young people are being taught in college".

Within the manufacturing sector as well, one major employer seemed to adopt a similar impassive attitude towards the current college-based education and training provision premised on the adage that 'if something isn't broken, then don't attempt to fix it': Diane, who had overall responsibility for the recruitment and training of what is a major employer in the sector, was not aware of any shortcomings in the currently available external training programmes. As far as she was concerned, all 'stakeholders' "appear to be satisfied with the results they are getting" and that "no-one has stated that 'this course is not providing what I want it to provide' ". She added that "the company [meaning its senior managers] would be reluctant to support them [the courses] otherwise". However, as discussed below, this impassive stance was not prevalent throughout the whole of this sector: it was evident that other informants were in a position to exert greater control over the training function within the companies for which they had responsibility.

Employers' ignorance of, and lack of engagement with, the education and training system may serve as a partial explanation for their apparent frustration with the vocational education and training system (though, as discussed later, there are also deeper-seated epistemological issues pertaining to the transferability of vocational knowledge to actual practice; and these are also likely to have had a profound effect on their opinions). However, their 'detached' position might explain their unwillingness or, more likely, their inability to suggest changes to the content of external courses, as was also apparent by the dearth of suggestions in response to the survey question on this aspect.

In spite of their indifference to education and training, and the apparent element of 'mystique' surrounding qualifications for the industry, as revealed in the next section, some employers clearly had entrenched personal opinions on what they perceived as being irrelevant content in the vocational curriculum. Even so, there was a sense that qualifications, particularly at degree and/or professional level were held in high regard by certain employers – revered even by some. Barbara, representing the colorant-using sector, made several references throughout the interview to the "value" employers placed on academic qualifications. Referring to the programmes offered by one of the major providers of colour-technology courses, she claimed that

"a lot of employers do value the work that's carried out at Oakleaf Further Education College,[32] they really do; and the fact that the young people are taking an exam, and that exam results in a certificate – a qualification".

On the manufacturing side too, both Diane and Edward recognised the value of traditional knowledge-based qualifications. In Diane's opinion, the merit of the current examination-led route to a qualification was that the associated courses

"are defined in terms of content and time-scale"…"they are far more prescriptive and set out, and you know what you are doing to achieve them".

[32] Not the actual name.

The consequence of having access to information about curricular content, learning objectives and expected completion times was seen by her as one of the “strengths of the traditional system”. This support of a defined curriculum is at variance with Diane’s earlier, somewhat complacent, stance and perhaps marks an underlying preference in her thinking on vocational education for a more narrow, instrumental approach.

Edward mentioned the value of written examinations in assessing, the “theoretical principles”. He stressed that an appreciation of the latter was important, especially in relation to technical staff (e.g. laboratory technicians) where “you must have some sort of formal examination up front”. In relation to standards-based approaches, he commented that the factual knowledge component of an NVQ was “important” and conceded that when his company moved from City & Guilds qualifications to NVQs for its process workers this “went down” in relation to the knowledge requirement for the former. He added that an NVQ does not test an individual’s knowledge as thoroughly or as rigorously as a conventional written examination admitting that, with an NVQ, “it’s nothing like as hard or as deep”. Consequently, he now felt that individuals knew less about the technicalities of the processes with which they were involved, but stated that this had been compensated for by their greater awareness of the operational aspects than hitherto: (apparently some individuals had claimed that doing the NVQ had made them understand more about the practical nature of the work itself and its relationship to other processes, though unlike one of the companies in Fuller *et al’s* (2005) study, this greater understanding of organisational activities appeared to be a product of serendipity rather than an integral part of its training programme). Like Diane above, Edward’s thinking on the purposes of vocational education was closely linked to its instrumental value; indeed, he saw the introduction of NVQs as an opportunity to control how knowledge is assessed and to formalise the company’s operating procedures, which he described as “a business

improvement". However, he could not claim that the standard of work had improved as a result of their introduction.

**EMPLOYERS' CONCERNS WITH THE SYSTEM**

Although some employers appeared to recognise the value of qualifications as entities in themselves, ostensibly acknowledging the potential currency of them for employees in terms of their ability to confer prestige and social mobility, it was also clear that many more were not entirely satisfied with the present arrangements. The underlying reason for their dissatisfaction relates to the content of the college-based educational programmes. Two strands to the problem have been identified: the first is concerned with the relationship between acquired theoretical knowledge and its application to workplace practice; the second concerns what employers perceived as the irrelevance of the content of the educational programmes. A concomitant problem is the difficulty in sustaining college-based vocational programmes in certain areas which, by default of relying more heavily on the on-site resources of the companies themselves, looks likely to lead to a narrowing of the curriculum.

***Relationship between acquired theoretical knowledge and workplace practice***

One aspect of employers' dissatisfaction with the education and training system lay in their inability to relate a person's level of qualification to his or her usefulness in the workplace. Informants from both sectors (with the exception of Diane) highlighted employers' frustration that the system failed to produce individuals that were immediately useful to the organisation, and this issue seemed to become more problematic at the higher levels of qualification. In the colorant-using sector, this was exemplified by the reluctance of some companies to take on newly-qualified graduates. Some that had done so were said to "value them greatly to begin with for their academic knowledge"; however, the same companies had been more

disenchanted by the fact that they had not always proved themselves to be immediately useful to them in practical terms: “But then we found that they don’t have the practical knowledge to translate those degrees into a finished product” was Barbara’s claim. The views expressed here resonate with the questionnaire survey findings in which a majority (61%) of all employers (66% for those in the colorant-using sector and 74% in the case of those with NVQ experience) agreed with the question 6 statement (B) signifying their *expectations* that individuals with a high level of ‘vertical’ technical knowledge (Young, 2004) would have no difficulty in readily applying that knowledge in a given practical context. This divergence between what they anticipated and the reality of the situation suggests that there is a mismatch between what employers expect to gain from the external education and training system and what is actually forthcoming.

Edward was equally sceptical:

“I don’t believe that evidence of knowledge gained via formal examination is necessarily evidence of competence. They’re good at exams, but [are] not able to apply it [i.e. their knowledge] to a practical situation.”

Frank’s assessment of the situation was even more scathing: it appeared that his involvement with graduate trainees coming into the manufacturing industry had not been a particularly rewarding experience. He stated that he had recruited many over the years but, in his experience, “…some of them, they were thick when they started, and weren’t much better after a year or two!”. He dismissed the idea that the knowledge they brought with them had immediate applicability in the workplace, not even when they had undertaken a ‘sandwich course’ involving a year in industry as part of their degree course.

Carol took a more pragmatic view of the situation. She also cited cases known to her where employers, who had engaged people that were “highly qualified” through the

“traditional route”, had subsequently become dissatisfied when the expected workplace skills of those people failed to match up to their paper qualifications. However, in her view, the answer was to identify the potential in an individual, using qualifications as a benchmark, and to develop that potential through appropriate training in the job. Her view tends to resonate with Moore’s (1988) analysis of Ashton *et al’s* (1983) findings concerning the way in which employers use educational qualifications as little more than a ‘screening function’ for pre-selecting candidates for job interviews, the actual decision to recruit often being based on non-academic criteria. However, the danger of adopting such an approach is the underlying assumption that there is an automatic correspondence between the acquirement of technical knowledge and its application in the workplace; or (as discussed at some length in Chapter 2 by Eraut (2004) and Young (2004)), the implication is that the successful acquisition of ‘vertical’ knowledge is a predictor of the ability to acquire tacit experiential knowledge. Both latter authors have demonstrated the conceptual and epistemological difficulties associated with the transfer of knowledge into workplace settings – difficulties about which the majority of employers responding to the questionnaire, as well as the interviewees above judging by their comments, seem to have been unaware. Whilst their views may have some foundation for certain individuals – for example those who, in Eraut’s definition, are ‘ideal students’, who have “taken ownership of a repertoire of theoretical ideas” and used them significantly independently “in a manner that goes beyond one specific knowledge source” and which “transcends reasonable comprehension” (2004, p212) – for the large majority (as Eraut reveals) the process of transferring their acquired knowledge from an educational context to a workplace setting is much more complex than many employers imagine.

A related problem concerns the proposed introduction of Technical Certificates for the industry. As discussed in Chapter 2, Technical Certificates were being introduced as

part of the Modern Apprenticeship framework for the industry with the aim of strengthening the vocational knowledge component of these work-based programmes. Their introduction has been described as a *connective approach* to vocational knowledge (Young, 2004, p190) designed to link on- and off-the-job learning. The problems associated with conferring responsibility for deciding on the technical content on employers' bodies and the ease with which the off-the-job element can be subverted by employers have already been discussed (Ryan & Unwin, 2001). However, Young (2004) has highlighted a further weakness in the approach to the design of the Certificates, which those interviewees who referred to them had been either unaware or chose to disregard. The problem, as Young explains it, lies in the assumption that underpinning knowledge and understanding can be generated from the occupational standards-based methodology on which the Certificates are based. Again, treating the two types of knowledge as one and the same overlooks the technical and epistemological difficulties associated with transferring knowledge acquired via the college-based curriculum into the practicalities of the work environment.

***Content of vocational programmes***

The literature on vocational education and training has repeatedly shown that not all employers are concerned to secure a good general education for their employees, but that they are more intent on ensuring that the training available is adequate for their companies' immediate business needs and are not interested in anything beyond that. Fuller and Unwin's (2003) notion of a *restrictive approach* to employee training typifies many employers' feelings about the VET system for the coloration industry. The overwhelming support for in-company training evidenced by the survey is one indication of the parochialism that permeates the industry. On the specific issue of actual course content, Alan had observed that many employers – especially those from smaller organisations – were conscious that their resources and the

nature of the work in which their companies were engaged were limited and that, as a consequence, they were unable to provide trainees with the variety of experience expected of them.[33] Therefore, such companies were compelled to look to the training providers and colleges to remedy that deficiency in provision. Paradoxically, however, it was revealed that these companies often disapproved of the kind of additional training that their trainees were receiving because it was not directly pertinent to their own activities; and, according to Alan, that view was prevalent throughout the industry. Although he was unable to pin-point precisely in what areas of provision employers were dissatisfied, his reading was that there was a general perception that a lot of what was being taught within the system was "too theoretical" and not directly linked to practice (a sentiment expressed by respondents to the questionnaire survey). His comment was that

> "certain individuals within the industry…feel that some of the topics that are taught in the educational establishments aren't relevant to what a company requires. There are certain parts of the academic syllabus…that are not appropriate to what the industry is looking for".

Moreover, (somewhat ironically given the assumed dependence on high levels of technical knowledge for securing an organisation's capacity to develop), one of the more vociferous criticisms in this respect was said to have been voiced by a Technical Manager of what the interviewee described as "…a progressive, forward-looking company in terms of technical dyeing".

Referring to the proposed introduction of the Technical Certificate for the colorant-using sector, Carol stated that the hitherto rigid, job-specific knowledge had been "freed up" and made "more flexible" and there was now the potential for "overarching knowledge". Asked whether employers care whether or not their employees have the opportunity to acquire this 'overarching knowledge' that might not directly impinge on

[33] It is the ITO's practice to promote among employers the need to ensure that their trainees receive, by whatever means, a broad a base of training as possible.

their day-to-day activities, she replied, “No, I don’t think they do. I think employers want people who can do what *they* want them to do”. Again, this position is reflected in the survey data relating to question 4 in which employers emphasised the importance for the education and training system to provide their employees with the means of increasing their organisations’ profitability; and also their parochial attitude towards the content and delivery of the industry’s Technical Certificate. Expanding on this theme, Carol explained that “in the past there’s been too much knowledge” and questioned how much, and what sort of, knowledge a person needed to do the job. Asked what she meant by “too much knowledge”, it transpired that her concern was about the amount of out-of-date knowledge being taught. She argued that qualifications have not kept pace with developments in the workplace; and the curricular changes that inevitably lag behind changes in technological development and practice had led to the retention of what she called “old knowledge…extra knowledge” (*academic drift* to use Young’s (2004) terminology) that still forms part of some syllabuses and which students perceive as irrelevant because they are unable to associate it with what they do in the workplace. In her experience, this attitude is particularly prevalent among NVQ candidates, who are only concerned with achieving certification for the job they do. She concluded that whether or not trainees regard knowledge as “extraneous” depends upon their personal aspirations and/or the culture of their respective workplaces. Interestingly, Eraut (2004) makes a similar point that for many students, practical experience often comes to be valued more highly than academic courses; also that, for some, the attainment of knowledge is seen first and foremost as a passport to obtaining a qualification rather than as an enrichment of their practical competence, especially where that knowledge “has not been liberated from its original academic source, and is [therefore] unlikely to be ready for transfer” to the workplace setting (p213).

***Mode of provision***

The manufacturing sector's response to programme content had been far more pragmatic than that of the using sector. Here there was a recognition that the educational institutes were limited in what they could provide; and, by and large, companies themselves had taken steps to compensate for any perceived shortfall in provision by setting up their own internal teaching arrangements. Unsurprisingly, these in-house schemes reflected the characteristics of the narrow, company-specific, *restrictive approach* (Fuller & Unwin, 2003) in terms of tasks, knowledge, location and purpose.

Diane intimated that organisational changes within the company over the past five or six years had meant that people's responsibilities, and the consequent underpinning training, had altered:

"Our organisation…has gone through such rapid change that we've had to focus on just those areas that are fundamental and essential. Because jobs have grown and taken on more responsibility, they have had to be trained on the job…".

She admitted that this "internally focused" approach was "perhaps rather short-sighted" in its neglect of employees' wider career development, but added that it had been unavoidable.

In contrast with Diane's company, Edward's organisation appeared to be more critical about what the current college-based system could or could not provide for its day-release trainees. All the same, the company readily accepted that it was not possible for external providers to cater for the "specialisms" of individual companies (i.e. to be able to organise their teaching around the type of specialised chemistry and chemical processes with which they were involved) and that, at best, only the "theoretical principles" of the subject could be covered. These "shortcomings" in the system (as he described them) were compensated for by the company's own internal training

arrangements for all staff, including its college-based and graduate technical trainees ("we already do a tremendous amount of classroom training"), which included theoretical aspects pertaining to the company's manufacturing processes. Again, this position corroborates the survey findings in respect of the overwhelming preference among employers for training to be organised on an in-company basis, 91% in the case of the manufacturing sector of whom 43% were *strongly* in favour.

A diminishing student population, resulting from the contraction in the industry that had taken place over the last couple of decades, had given rise to other problems. As explained by Alan and Barbara from the colorant-users' training body, some universities and colleges were finding it increasingly difficult to justify retaining what were considered minority subject specialisms. Departments that were unable to combine resources in this way simply closed down. The ensuing contraction meant that fewer providers had to try to cater for a more widespread student body. Thus, employers whose part-time trainees normally attended college one day per week were now having to think in terms of 'releasing' them on a block-release or distance-learning basis; and this situation gave rise to other concerns, not least of which was the impact on the quality of the off-the-job training element.

Mention has already been made of the impoverished nature of training participation that is restricted in terms of tasks, knowledge and location and also the danger that such a restricted participation has in terms of its educational paucity (Ryan and Unwin, 2001; Fuller & Unwin, 2003). There was also the potential danger that the closure of college departments might further erode the quality of off-the-job learning. Barbara voiced her concerns about the situation in relation to her view that, for companies in England and Wales, distance-learning packages would constitute the basis of future colour science and technology courses. She maintained that "it's now distance-learning packages that are the future". However, she herself was

concerned that the quality of provision might be compromised as a consequence, not by the educational providers, but by employers. For one thing, she thought that many companies would not be in a position to provide the same level of amenities as the teaching establishments. But, more significantly, she was plainly fearful that some students might find themselves marginalised from off-the-job training opportunities because, as she believed, with distance learning there was a greater potential for employers to disallow time off for their employees to study:

"We know that if they've got a day out in college, that's what they do, and they're concentrating on college. If it's a matter of sitting the person down in a room with a computer to work on a distance-learning package, would it be tempting to say 'Well, you can't do it today because we're busy. You can't do it today because…' you know. And these days gradually merge into weeks and, you know, it's going to have to be a matter of someone, whether it's the training provider or the college, sitting down and making sure that all those amenities are available for the young person, and that they are giving them a lot of time to work on… because it'll just end up… they'll be doing it in their own time… ".

Barbara had also envisaged there being analogous problems for young people in relation to the delivery of the Technical Certificate component of the Modern Apprenticeship scheme (inherent flaws in the system having been recognised more generally by Ryan and Unwin, 2001); and, if employers' commitment to its delivery proved to be anything like as educationally deplete as the summary content proposed for the colour technology module (as noted in Chapter 2), then her concerns were not without foundation.

**THE FORDIST APPROACH TO ORGANISATIONAL STRUCTURE AS AN EXPLANATION OF EMPLOYERS' CONCERNS**

Employers' dissatisfaction with the education and training system and their views on what it should offer have much in common with the nature of work organisation in the industry. Reference was made earlier (Chapter 2) to the potential impact that post-Fordism has on Taylorist methods of work organisation. The discourse relating to vocational education and training was that there would be an increasing demand for well-educated and trained personnel to meet the continually changing work patterns,

the prediction being that “Firms will only survive if there is a ready pool of highly-educated ‘knowledge workers’ ” (Hodkinson, 1998, p196). Despite the enthusiasm with which post-Fordist rhetoric has been promoted as an organisational ideology, its adoption has been far from universal; and what purports to masquerade as post-Fordism is, in reality, a distillation of some of the flexible principles associated with the ideology overlaid on a much more rigid, bureaucratic, Fordist organisational structure.

Although there are undoubtedly companies within the coloration industry that have introduced more flexible production systems, adopted flatter organisational hierarchies and have attempted to compete on the basis of innovation rather than on mass production, the depth to which these post-Fordist traits have penetrated the organisational culture of the industry as a whole is questionable. As discussed below, this research has identified many more examples that show that the industry still persists with Fordist practices.

In the 1980s, the then Thatcher government set out to promote a curriculum predicated on enterprise and creativity (Coffield, 1990). Yet, the questionnaire responses have demonstrated that the vast majority of employers are not in favour of developing an enterprise culture among their respective workforces. Companies appeared not to want to encourage creative thinking among staff in general, but rather were more fixated on ensuring that they were trained to carry out their day-to-day tasks. As Frank on the manufacturing side commented: “It’s not what you know, it’s what you do”. This focus on job-specific, company-based training (for which there had also been overwhelming support from the survey respondents) had resulted in trainees being paid according to the actual extent of in-company training they had received (which was presumably taken as a measure of their potential usefulness to the organisation) and this in turn gave rise to some trainees that were still on part-

time college courses being paid higher salaries than those full-time trainees in possession of a degree qualification.

Another indicator of the persistence with Fordist traditions by the industry is reflected in its pyramidal organisational structure, job exclusivity and the need for employee compliance. In terms of their staff selection policies, Barbara stated that many companies in the colorant-using sector preferred to recruit at school-lever level. Apart from possible financial advantages, she stated that school-leavers could progressively become acquainted with a company's ethos as well as its modus operandi (Barbara used the phrase "companies can mould them and train them"). Again, this stance seems to suppress any prospect of securing a workforce that is flexible and innovative. The concept of *flexible specialisation* and, in particular, that of *functional flexibility* (Phillimore, 1979) did not occupy a high place on Frank's agenda either. Commenting on the alleged marginalisation of knowledge in NVQs, Frank explained that the knowledge 'bank' used for on-the-job assessment purposes was "hierarchical" in the sense that there is a direct relationship between the level of expected knowledge and understanding and the level at which a person operates within the workplace. Therefore, in his view, it was not permissible for, say, an operative to be 'examined' in relation to a supervisory task that might impinge on his or her daily work even if, in practice, that operative normally deals with the issue personally (which apparently was often the situation in smaller companies that he had dealings with). This type of 'restrictive practice' did not seem to be problematic to Frank however. His attitude towards higher-level technical NVQs was similarly parochial; hence, he viewed the Managing Director as someone responsible for chairing meetings, who did not need to concern himself with higher levels of technical knowledge, declaring that "You don't employ a top man in the production area". Clearly, for him, it was a belief that 'horses were for courses', and this bureaucratic

inflexibility associated with the competence-based approach to training seemed to satisfy that belief.

The obsession with short-term, fragmented training focused on getting the job done is a further indication of Fordist practices. However, regardless of the way in which the rigid specification of objectives and measures of performance characterise approaches to CBET generally (Hyland, 1994; Bates, 1995), informants from the manufacturing sector claimed that NVQs for the industry were not specific enough for their individual companies' production requirements. For example, in Diane's case, it was felt that the more flexible arrangements for training offered by the NVQ system did not meet with the company's ethos; they did not articulate with the company's own practices or, indeed, its perceived requirements, and so the company had introduced its own internal training programme, which all employees were expected to undertake. In Edward's case, it was learnt that he had "researched" NVQs some years earlier as a possible alternative to the City & Guilds qualifications that were then being taken at that time by the company's manufacturing process workers. They seemed to him to be an attractive alternative because they allowed company-specific knowledge, rather than more discursive knowledge, to be acquired and then assessed alongside the on-site evaluation of people's ability to carry out a particular process. Edward explained the situation by reference to the following manufacturing process:

"As a company, we wanted to know how polymerisation occurred. But we weren't examined on that because the national standards[34] weren't really for that, they were only for just basic chemistry." […] "This is the reason we took on NVQs really, because with NVQs, *what we're really out to do is assess the real job*." (my italics)

However, in practice, Edward regretted that questions asked during the assessment process were not made as relevant to the company's practices as they could be. He

[34] By "national standards" he meant the City & Guilds examinations formerly taken by a section of the workforce that now takes an NVQ instead.

indicated that the company had devised a ‘bank’ of standard questions, which all trainees were expected to be able to answer. These were supplemented by the assessor’s more discursive questioning posed during the actual assessment procedure. Apparently, this line of questioning was something of an anathema to the company because, according to the interviewee, “they [the assessors] are not asking the right ones”. It transpired that the assessors often asked what were, in his opinion, “inappropriate questions” that did not have a direct bearing on what was being assessed. Therefore, the plan for the future was that the company would develop a bank of “pre-set, oral questions” from which the assessor would be expected to choose. In addition, there was a proposal to devise “model answers” as a yardstick for assessors to work to. In relation to the competence standards themselves, he was similarly unhappy with their generic nature (which he again expressed as being an aspect that the company, not just himself, was dissatisfied with):

"We've had a lot of problems with NVQs, they're too vague – the standards are too vague – they're too vague for what we want as a business."

In pursuing what exactly he means by 'vague', he said that the NVQ standards offered only a general guide in terms of assessment criteria. The company had therefore had to write their own competence standards, albeit in line with the national standards.

As the following evidence demonstrates, not all interviewees supported such an inflexible approach to training, though as they were not directly employed in production, their censure of it does not affect what was judged to be the predominant Fordist approach of the industry. Nevertheless, their influence in the area of VET could help shape the future position: Alan, Barbara and Carol recognised the problems associated with what Hyland (1994), Bates (1995) and others have established about the fragmented and inflexible nature of the competence-based model. Carol admitted that the original NVQ requirement of having to link every piece

of knowledge to a particular performance criterion had been “too prescriptive”; and (in contrast with Edward’s experiences above) even when it was a matter of assessing the “principles of a method”, assessors still assessed in relation to the specifics. Her criticism was that assessors

“don’t holistically assess […] we [QCA] want it to be holistic and I’m saying it should be holistic – that’s what it’s meant to be”.

Her own personal feeling was that it would be more useful to assess “generic knowledge” as a separate unit from that assessed in relation to the performance criteria ( a view similar to that of Debling (1991) noted in Chapter 2). Barbara also saw an advantage in offering NVQs in tandem with examination-based end-tests commenting: “Together, I think they do complement each other very well”.

Alan too had expressed reservations about the occupational narrowness of the assessment programmes which, he argued, denied individuals the opportunity of gaining more eclectic knowledge and experience thereby precluding their engagement with wider aspects of the job. By way of example, he cited the wool-dyeing industry in which material can be dyed in a number of different forms (giving as an example, yarns, cloth or garments) each of which is a specialised process in its own right. Within the current system, people are provided with knowledge and, albeit partial, experience of all these processes; whereas under the NVQ system, they would be confined to one form or the other. Like Frank above, Alan recognised how the competence-based system might perpetuate job fragmentation associated with Fordist approaches; however, unlike Frank, he saw this as being detrimental to the industry.

**THE NVQ SOLUTION?**

Given the various claims made for the potential benefits of NVQs to industry in relation to such things as staff selection and recruitment, identification of training

needs, improved work performance and, by no means least, increased profitability (e.g. Fletcher, 1991), it might be expected that employers in the coloration industry would have regarded them as a remedy for their perceived concerns. However, whilst the qualifications have been a major stimulus for change in some areas, they appear not to have been the solution that the coloration industry *per se* is seeking.

***Stratification of training via NVQs***

Initially, the introduction of NVQ programmes had been confined to the semi-skilled and unskilled sections of the workforce. The low level at which NVQs had been introduced reflected the former NCVQ's earlier attempts to promote the take-up of the qualifications in other industry sectors as speedily and effectively as possible. As has been claimed elsewhere (e.g. Jarvis & Prais, 1989), the NCVQ had a policy of deliberately targeting the qualifications into those sectors of industry and commerce which provided for substantial numbers of young people already pursuing low-level, YTS-type training programmes. Carol stated that "they bit off the big chunks" (alluding to the introduction of NVQs into those occupational areas that employed large numbers of semi-skilled and unskilled personnel) adding that "if they got those, they got an awful lot of people".

In relation to the introduction of NVQs into the colorant-using sector, both ITO representatives for the sector (Alan and Barbara) felt that, initially, the underlying *concept* behind competence-based approaches had been well-received by employers and, as Alan commented, "In the early days, their attitude – their feelings – were fairly positive". As a result, at the lower occupational levels, many organisations had been quick to sign up all their operatives onto a Level 2 NVQ programme. At the higher NVQ levels, Alan reported that subsequent take-up by the industry in respect of Level 3 (which, he pointed out, is linked to the Advanced Modern Apprenticeship) had been slow. This, he reasoned, was because of the dual arrangement requiring trainees to

pursue the workplace-based competence component of the Modern Apprenticeship (with its cumbersome and time-consuming bureaucracy) as well as to attend college in order to satisfy the off-the-job knowledge element. It appeared that companies – and especially those which "aren't training orientated", or were smaller organisations with only limited resources – were unhappy about what they perceived as the double imposition of having to provide a formally structured programme of internal training in addition to a day-release facility. He explained the situation thus:

"They would rather have that person go to college, do the academic bit, and receive in-house training…without having to have all the hassle and bureaucracy that runs alongside this vocational system… But to have them going out to college on day-release, then coming back and having to pursue a Modern Apprenticeship, proves difficult…".

Like the colorant-using sector above, NVQs almost exclusively predominated the unskilled and semi-skilled sections of the manufacturing workforce. Of the forty or so manufacturing companies that Frank was involved with, Level 2 NVQs had been introduced throughout for process workers; however, there were also higher-level qualifications in place for technical staff involved in specialised manufacturing, application and testing processes (up to Level 4 for testing) though these had only been taken up sporadically. As indicated above, NVQs for administrative staff had been piloted but had subsequently been abandoned in Diane's organisation. Diane herself emphasised that her company had no immediate plans to introduce NVQs for its technical staff. Edward's company was said to have adopted a competence-based culture for its entire staff, a philosophy that had intensified since the company's take-over by a multi-national organisation several years earlier. There had been a drive to ensure that staff were competent for the job they did ("the business itself was saying, 'we must prove our people are competent' ") and Edward had been charged with seeing that the appropriate training programmes were in place for employees at all levels – from the shop-floor to the boardroom. The result was that, even though the company still recruited people at graduate and postgraduate levels as well as

part-time trainees on a day-release basis for higher-level positions, it had its own internal training schemes based on NVQ programmes, which all low-skill operatives and process-workers were expected to undertake.

The suggestion was put to Frank, who earlier had been highly critical of new graduate recruits, that it might be beneficial for graduates to be given the opportunity to take an NVQ as an indicator of their competence. He agreed that employers might see it as proof of their "skills enhancement", but he stated that the "downside" was that "employers have to register, take time to train, and *spend some money"* (my italics). This latter aspect of the "downside" seemed to be the real reason why employers might not insist on graduates taking an NVQ as he went on to mention that he was aware of a number of companies that had introduced training schemes based on specific NVQ units as opposed to the whole NVQ[35] and had thus avoided the formalities and expense of registering their trainees for certification. Their reasoning: "Why should we pay £80 to register them just to get them a piece of paper?" is evidence of the parsimonious attitude of employers towards expenditure on staff training (e.g. Coffield, 1990; Owen, 1995) and which is also further evidenced below.

Like Frank, none of the other interviewees envisaged there being any merit in extending participation in a full NVQ programme to people already qualified at graduate level. The general feeling was that the level at which NVQs could be used most effectively was at Level 2, mainly for semi-skilled machine-operatives and process-workers, and at Level 3 for certain sections of the technical-based staff.

[35] A related issue here is the problem (referred to in Chapter 2) that was anticipated by Raggatt (1991) and acknowledged by Jessup (1991) regarding the potential for employers to use NVQ units selectively, thereby denying their trainees the opportunity of engaging with the full programme and thus limiting their training horizons still further.

***People driving the introduction of NVQs into the industry***

As outlined in Chapter 2, following the NCVQ's establishment in the 1980s, challenges to the knowledge-based vocational curriculum and the ensuing move towards the adoption of a standards-based approach were represented by the 'official' literature as being 'employer-led'. However, the evidence from this study suggests that for much of the coloration industry, the impetus for change has been top-down, mediated by the training organisations. Only Edward's and, to a less significant extent, Diane's companies had taken a unilateral decision to restructure their training in this way.

Barbara intimated that her training body had been the main driving-force at the level of the individual company. In association with the former local Training & Enterprise Council, it had promoted NVQs to employers in a number of companies in an extremely vigorous and positive way:

"You know, saying like 'you can't live without it…your workforce are not the workforce you could have, and that once they've completed this NVQ, you have this dynamic, forceful workforce' ".

However, on the question of how NVQs came to be introduced into the companies that he was responsible for, Frank gave the impression that the employers themselves had expressed a preference for this mode of training. He stated that the driving-force had been the perceived need by the industry for a more structured training and certification programme, especially at the lower operative/process-worker level. His actual response to the question of how NVQs came to be put in place was

"because the members [i.e. employer members of the training body] said 'Yes, you are right…we've got college courses that our technicians have been on…we've got nothing for the operatives and the valuable people on the shop-floor… It would be great to say we've got a structured programme…so we can say they're qualified, and it will give them a ticket to be able to move to another company' …".

In spite of his claim, it is reasoned that it is highly unlikely that any organisation would overtly subscribe to a system that allows its employees in whose training it has

invested to be readily off-loaded to another employer; UK employers have, understandably, always resented people whose training they have financed being poached by other companies (Finegold & Soskice, 1998). Moreover, it had also been revealed that, about eight years previously, the relevant training body had organised a series of seminars aimed at explaining (or perhaps, more accurately, 'marketing') the NVQ system to employers. Thus, it became increasingly apparent that it had actually been the sector training body with which Frank was associated, and not employers as such, that had been in the driving seat and which had taken the lead in getting the qualifications introduced.

***Funding implications***

In addition to the attempts to ensure the widespread take-up of NVQs by targeting the low-level skills market, there were also financial inducements on offer. Carol raised the issue of funding initiatives which, she maintained, had been designed to pump-prime the NVQ system initially. In her experience, companies throughout the coloration industry varied in their reactions to NVQs, but she believed that most of the organisations that had taken them up had undoubtedly been attracted by the funding available. As she commented

"If NVQs hadn't been funded the way they were, I don't think they would've taken off…".

But now that there was a greater requirement for employers to pay for their own training and assessment, she reported that some companies were not as enthusiastic:

"Now it's going over to the employers paying again, it's back to that 'Oh, well, they don't want to pay for the training' ".

Alan also commented on how the monetary incentive had induced employers in the users' sector to commit to NVQ programmes. His colleague, Barbara, also referred to how employers had been lured by the prospect of funding being available "so

everybody thought 'Oh, *we'll* have some of that!' ". Alan believed that if the schemes had not been "finance driven", many employers probably would not have been as keen to sign up to them. He restated this point later in the interview adding that, in his opinion, if funding was to be withdrawn, only those companies which had a strong training ethic would continue to offer them. In his words:

"…the take-up of NVQs would go 'zonk', it would drop through the floor. There would be odd companies that would pay for their training, but these are in companies that are training orientated anyway".

The cost-conscious nature of employers in the coloration industry in relation to financing training as been referred to in earlier chapters and mirrors other studies that have highlighted the failure of employers generally to invest sufficiently in education and training.

On the manufacturing side too, Edward was of the opinion that, because the NVQ system was "numbers driven", a lot of organisations were "into it for easy money" and consequently dragooned large sections of their staff onto the programmes. However, unlike other informants, Frank strongly refuted the suggestion that the forty or so companies that he was involved with, or the relevant training body, were in it for the money, though he did reveal that he had encountered employers who saw NVQs as an opportunity to get hold of external funding to expand their internal training. He was also aware of colleges which, he alleged, had "fast-tracked" their assessment procedures and had "signed off" candidates whom they didn't even know in order to "get their money". Similarly, he admitted that there was a temptation for companies to "rush people through" the system so that they could be certificated: "That's the only thing they're interested in – getting the certificate", he said. However, he denied that this was in any way connected with the prospect of capitalising on funding. Rather, it transpired that the reason why they wanted their employees certificating was to enable them to transfer from part-time trainees to full-time working.

Citing other dyestuff and chemical producers that had invested heavily in national training initiatives who, despite “high levels of investment”, had suffered in their trading activities, Diane concluded that “there is a lesson in that: you have to get the right fix for the business”. Her point was that companies should invest in the training that is appropriate to their requirements. She added that, unless it could be proven unequivocally that training initiatives such as NVQs are better than the more traditional academic courses, then there was no point in implementing them.

***Significant consequences of the implementation of NVQs for employees***

This research has deliberately concentrated on employers’ attitudes towards the introduction of NVQs for their employees. However, it is also recognised that whether or not their implementation is successful depends, in no small measure, on how they are perceived and received by employees themselves.

In his earlier study, Raggatt (1994) identified how the implementation of NVQs in colleges provided a major stimulus for motivating students’ learning by facilitating greater learner autonomy. However, as Bates & Wilson (2004) also discovered, he concluded that some older learners or those with different social or cultural backgrounds were happier with more structured, tutor-centred approaches to learning. Moreover, given that adult employees have a variety of roles other than being members of the workforce – citizens, spouses, parents, etc – it would be wrong to assume that they would all wish to take up learning opportunities related to their day-to-day employment (Edwards, 1991). By the same token, the qualitative data revealed that there were ‘winner and losers’ (Edwards, 1991) in those companies which had introduced NVQs into the lower echelons of the workforce where, up till then, there had been no formal qualifications structure. Positive responses to them

had been stated to be relatively widespread. Even so, their introduction had been problematic in some areas.

With regard to the observed benefits of the system, based on their experience with companies that had embarked on the programmes, both Alan and Barbara could readily appreciate the value of a Level 2 qualification in providing formalised, structured training for people working at operative level. Barbara claimed that people were now being trained "in a systematic way" and were "learning in a structured manner" whereas before

"…it worked on the old 'stand by Nellie', you know, you stand next to a person and you pick up their bad ways and …you learn when they've got time to teach you".

Additionally, in Alan's view, it allowed these people – most of whom had left school without any sort of qualification – to receive certificated recognition for the job they did, which in turn had been observed to lead to increased employee satisfaction in the workplace, the same outcome having been reported by several other interviewees and also documented in the articles by Raggatt (1994) and Bates (1995) above. As an example, Alan cited a case of one company that had enrolled nearly three hundred of its operatives on a Level 2 NVQ programme which, he claimed, had been "the best thing since sliced bread" for the company in that it had resulted in increased production, reduced wastage and a reduction in the number of accidents. It had also, for the first time, enabled the company to evaluate its staff on a formal basis resulting in some being singled out for "better, grander things". In common with Alan and Barbara, Carol had experience of a similar situation where a group of "mature and experienced sewing-machinists" in the clothing sector of the industry had been "just so proud" at having been awarded an NVQ for a job that they had been doing for twenty or thirty years. Her contention that their job satisfaction and motivation had increased as a result of the awards, as had been evidenced by the

reduction in the number of faulty garments accompanied by an increase in production.[36]

Increased motivation was also a key feature of Frank's analysis of the situation. He stated that since Level 2 NVQs had been introduced into his paint and printing-ink manufacturing companies, quality throughout had improved and there was a greater degree of motivation and team working. This 'positive motivational factor' in respect of semi-skilled and unskilled staff had been reported by all except one interviewee. Whether this has been due to the awarding of the NVQ certificate or as a consequence of the longer-term assessment procedure is not clear; though it appears to be a product of social intervention similar to that effect observed during the so-called *Hawthorne Studies*[37].

These reported organisational and personal benefits were however tempered by the problems that they had caused for some individuals and their companies. Barbara reported that, in a number of companies with which she was involved, employees had been "press-ganged" into taking an NVQ when some were clearly either not interested in, or capable of, obtaining one. She stated that

"everyone was told or asked to take part in this NVQ system…and I think some people were scared to say 'no' and then struggled and became very unhappy".

In her experience, companies had been far too rash in their decision to adopt them, a decision catalysed by financial inducements that had been taken without first conducting any kind of training-needs analysis or without any real appreciation of what participation in such schemes entailed for individuals. Edward reported that

[36] Following a case study undertaken in an associated sector of the industry (a man-made fibres company), Unwin reported on what a senior company executive described as "a major contribution to workforce morale and motivation" resulting from the introduction of an NVQ training programme (Unwin, 1991, p180).

[37] See, for example, Morgan, G (1986).

many staff in his organisation also felt that the system was being imposed on them from the top and that they resented this. They also resented there not being any financial recognition attributed to the award of the NVQ, many believing that they warranted a pay increase for 'passing'. He revealed a further drawback in that these employees were not able to progress to higher levels within the organisation because the job they were doing did not entail the appropriate level of experience required for a higher NVQ award. Moreover, this resulted in a ‘catch-22’ situation since if an employee wished to progress within the organisational hierarchy, he or she was obliged to obtain the corresponding level of NVQ.

**CONCLUDING COMMENTS**

The consolidated findings from the interviews expose employers’ unwavering desire to see education and training organised around their business needs, which are often very specific and are likely to undergo rapid change. What consistently emerges is that, from the employer perspective, the system should ideally focus on equipping employees to maintain the production function and, in the final analysis, presumably secure company profitability. This would help explain employers’ preference for internally-organised training over other forms, and reinforces what has been learnt about this issue from the quantitative study. It is also consistent with an industry whose work organisation and orientation to training has been retained along Fordist lines. Employers give the impression of being extremely blinkered on the above issue, and their inability to come up with any meaningful suggestions for ‘revolutionizing’ the current system, other than arguing that it should be more in tune with company-specific needs, is a further indication of their ignorance of, and distance from, what the education and training bodies provide. Their lack of understanding has often resulted in employers becoming frustrated when their employees’ expected performance does not measure up to their academic qualifications and this possibly contributes to their negative perception of the content

of the external provision. However, the situation is not helped by the epistemological difficulties associated with the transference of learning into the workplace about which employers are also unaware. The problem is particularly evident in the case of new graduate recruits where it is sensed that their higher technical knowledge is undervalued.

Probably the most significant additional insights that the qualitative data provides are in relation to NVQs. The indications are that their implementation within the colorant-using sector (and also within a large number of manufacturing companies) was instigated by the training bodies and not by employers themselves. Whilst those companies which have introduced them claim that they have resulted in greater job satisfaction among staff operating at the lower levels within the organisation, there is no evidence that they have produced a more competent workforce —a pledge that was at the heart of official pronouncements on them. Moreover, despite their successful introduction at Level 2, at the higher levels, the industry seems unconvinced that the standards-based approach offers a suitable alternative to the current college-based routes.

# Chapter 6

## CONCLUSIONS

**INTRODUCTION**

The emergence of NVQs onto the UK VET scene over a decade ago represented a sea-change not only in terms of the ideological basis for attaining a vocational qualification, but also in requiring employers to take on responsibility for their delivery and assessment which, in the case of the existing vocational system, has been the responsibility of the educational providers. Focusing on the UK coloration industry, this thesis has investigated the reactions of employers in the coloration industry to this changing context.

The evidence presented in the previous two chapters demonstrated that, overall, employers' dissatisfaction with the current VET system lies in what they perceive to be a largely irrelevant curriculum in terms of their business needs, and one which they would prefer to see organised around company-specific practices. In fact, what is strikingly evident is their unequivocal support for company-based training. This fixation on a business-focused approach is clearly at variance with what has been found in respect of their alleged support for employee development. On the other hand, their lack of enthusiasm towards NVQ programmes as alternatives to the technical curriculum appears to challenge official government thinking on the use of the standards-based model as a means of creating a highly-skilled, flexible workforce as well as realising the social benefit of allowing vertical and horizontal mobility of employees throughout industry.

This concluding chapter draws together what I consider to be the main findings from the research. These are examined under headings that approximate to the original research questions given in Chapter 1. This is followed by an analysis, from an epistemological standpoint, of my methodological position and how this developed during the course of the research. Following a brief consideration of several possible areas where the findings have indicated a potential for further exploration, I conclude by setting out what their implications are for future education and training policy and practice, both within the coloration industry and more generally.

### EMPLOYERS' VIEWS ON THE APPROPRIATENESS OF THE CURRENT EXAMINATION-BASED SYSTEM AND THEIR SUGGESTIONS FOR CHANGES

Employers have been critical of the current VET system for its not being purposely tailored to meet their individual companies' needs. However, because they are essentially ill-informed about the content of the educational courses and the nature of the qualifications provided by the relevant universities and colleges, it has been difficult for them to be precise about which areas of the curriculum fail to meet with their expectations, or what the exact nature of the changes needed are. The findings here mirror what Moore (1988) and others have reported about UK employers in general. As discussed in Chapter 2, the position is further complicated by employers' difficulty in making a cognitive connection between theoretical and tacit (experiential) knowledge, which results in their rejecting the former as being irrelevant (Eraut, 2004).

The root of employers' dissatisfaction stems from their perception that what is being taught is too theoretical, too abstract, and does not address what, to them, are the more relevant aspects of practice needed for hands-on usefulness in the workplace. The desire to see a more occupationally-orientated curriculum was particularly evident from discussions with staff from the Industry Training Organisation that

represents the colorant-using sector. The prevalence of this view throughout this sector was to be expected, however, as practical application and experience tend to hold greater currency than disciplinary knowledge within companies concerned with the application of – as opposed to those involved in the manufacture of – dyes and pigments.[38] Even so, it was noticeable that respondents in the using sector were ambivalent in their overall views, being disenchanted with the external training system but, at the same time, seemingly not wanting to put any other system in its place. Indeed, many companies in the sector wished to preserve the existing educational courses (albeit with a more occupationally-relevant curricular emphasis). In the case of those companies offering a day-release facility, there was also a strong sense of conservatism in that they were reluctant to contemplate other vocational learning routes, such as sandwich-based course provision. They preferred to stick with what they were most familiar with —a traditionalist trait, which comes as no surprise in more 'mature' industries like the textile-coloration industry. A similar finding was also exposed by Unwin (1990a) in respect of attitudes in certain employment sectors towards the introduction of competence-based approaches (referred to in Chapter 2).

As reported earlier, the business community has frequently been critical of the education system (particularly of the compulsory sector) for failing to prepare school-leavers for the 'world of work'. These criticisms have often been predicated on the naïve and unreasonable assumption that the education system automatically has recourse to the knowledge, expertise and resources associated with industrial and commercial processes to enable it to prepare young people along those lines. This

[38] In comparing the views expressed by the two sectors in terms of the questionnaire responses, it is important to note that the survey yielded a disproportionately high proportion of responses from the manufacturing sector compared with the proportion in the total population, which may well result in a distorted picture of the opinions of the industry as a whole.

study indicates that the colorant-manufacturing sector has taken a more realistic stance, being more tolerant of the ‘front-loaded’ approach to what the education providers are able to offer in terms of their teaching portfolios and, further, acknowledging that it is not possible to cater for every company’s specific needs. Thus, where there have been perceived shortcomings in the system, manufacturers have themselves been proactive in compensating for these by introducing their own in-company training. In fact, with regard to the latter aspect, both sectors have been unwavering in their perceptions of the merits accruing from internal training with respect to what the external VET system provides.

In the case of the large, multi-national manufacturing organisations which have the resources to maintain high-cost training departments in tandem with the functions of production, it has been relatively easy to introduce structured, in-company training programmes. By comparison, the colorant-using companies have tended to be much smaller and, therefore, generally have not had the means to set up their own training utility (and, in fact, during the interviews with representatives of this sector, a desire by employers to embark on their own internal training never surfaced as an issue). Yet the questionnaire respondents from this sector still perceived work-based training as being by far and away a more beneficial option to college-based learning. What was not readily discernible was what form these organisations envisaged training taking place given their limited (if any) resources in that area. Disturbingly, based on what one interviewee (Barbara) disclosed with regard to the proposed introduction of Technical Certificates, and also informed by the researcher’s own direct experience in this area, it is difficult to conceive of anything more than the kind of educationally impoverished workplace-based instruction referred to by Ryan & Unwin (2001) in relation to Modern Apprenticeships.

Employers appeared to make a conceptual link between what they regarded as academic knowledge and the more knowledge-intensive sections of the industry, such as research and development (R&D) work. In other words, more abstract, higher-level forms of knowledge were seen as belonging to the boffin – the 'blue-sky' thinker – whose job it is to develop new and better products and processes. R&D itself was perceived as the key to a company's long-term survival, especially by those working in the manufacturing sector though, curiously, the latter were not wholly convinced that a company's sustainability is attributable to its being able to offer leverage by virtue of new product developments. On the other hand, the actual academic know-how that underpins R&D is important in this area for maintaining the production process (and, accordingly, the continuation of the business) and it is likely that this is how R&D would have been articulated.

When it came down to the issue of recruitment, employers appeared to value practical experience over academic knowledge as a measure of a prospective employee's potential worth and, furthermore, perceived that the possession of an NVQ is better than the result of a written test as an indicator in this respect. This was especially so in the colorant-using sector where there was a concern to recruit 'hands' that could, as quickly as possible, begin to make a practical contribution to the organisation. As noted above, higher-level academic knowledge (as embodied in graduates of the discipline) was reserved for the R&D function. Nevertheless, the questionnaire respondents did not consign graduates to R&D exclusively, many feeling that they were equally suited to production work. This latter belief appears to negate what several interviewees from both sectors had found in relation to new graduate trainees, though it is likely that the questionnaire respondents were basing their opinions on the longer-term outcome of allowing time for these individuals to gain the necessary experience in the job. Interestingly, companies that had experience of NVQs tended to be more inclined than those without to pigeon-hole

employees into particular job categories depending on their level and/or type of qualification. Thus, as a group, they saw a greater justification for directing graduates to work in R&D laboratories, whilst people who could demonstrate good practical skills were better utilised in the day-to-day operations of the workplace. (Frank, who had been instrumental in introducing NVQs into paint/ink-manufacturing companies also took this line, consigning his MD to the boardroom, never to venture down onto the shop-floor.) This could be coincidental, or it could be symptomatic of the 'restrictive practices' Fordist ethos that seems to pervade the NVQ system, thereby challenging claims about its potential for increased employee mobility (e.g. Jessup, 1991).

**EMPLOYERS' EXPERIENCES WITH NVQs AND THEIR VIEWS ON COMPETENCE-BASED APPROACHES**

Over a third of companies responding to the questionnaire had some experience of offering NVQs, the majority of these being based in the manufacturing sector.[39] In discussion with representatives of the sector training bodies, it was evident that it was they and/or their respective lead bodies (though not employers) that had adopted a proactive and vigorous campaign to introduce NVQs into the industry (although one or two manufacturing companies appeared to have acted unilaterally in offering them). The lure of funding had obviously been a key incentive for companies to take them up.

On the whole, both sectors' experiences with Level 2 NVQs appeared to have been favourable, especially from a staff morale point of view. Their introduction had also been accompanied by a more systematic approach to training than hitherto for operatives and process workers. Even so, it is doubted that the inherently restrictive

[39] The earlier establishment of NVQs by the lead body for the chemical manufacturing industry undoubtedly accounts for the increased take-up of the qualifications by companies in this sector relative to colorant-using companies.

company-based approach would allow them to experience the richer, life-enhancing "pedagogic benefits of engaging in communities of practice [both] within and beyond the workplace" (Fuller *et al,* 2005, p65). Also, the evidently successful implementation of NVQs at this level obscures the fact that there were losers as well as winners in the new system: Edward whose company had introduced the qualifications 'unsolicited' had reported staff problems, these being linked to difficulties in fulfilling employee aspirations (for promotion) and expectations (of monetary rewards) by virtue of having gained an NVQ award. More critically, Barbara had referred to people who had felt intimidated by their introduction and thus for whom any benefits, intrinsic or otherwise, were not an option.

As explained in Chapter 4, the mix of 'intrinsic' and 'extrinsic' statements in Question 4 of the survey questionnaire was included on the premise that there is a conceptual relationship between support given to extrinsic (organisational) benefits and the preference for an education and training system that – like competence-based programmes – is designed to serve the needs of the business rather than the individual. The antithesis of course is a system that is primarily concerned with employee needs. Taken at face value, employers' immense level of support for the intrinsic elements in this section of the survey, coupled with their championing of employee self-esteem, etc (revealed by the interviewees), might easily lead to the supposition that they favour a system that promotes the needs of the individual. However, it would be naïve to assume that employers would simply accept the intrinsic features of training, however worthwhile, as sufficient in their own right; and it is therefore possible that they were equating them with more extrinsic outcomes (e.g. the potential for increasing production or reduced absenteeism). Hence, in a roundabout way, it could be that their support for intrinsic values become conflated with more economic benefits.

By the same token, though notwithstanding employers' appreciation of certain aspects of the progressive educational paradigm (specifically their interest in their employees' personal development, and their emphases on experiential approaches to learning), it is difficult to conceive that, given their propensity towards conservatism, they would wholly consent to a model of training that fully appropriates the canons of progressivism. The 'fostering an entrepreneurial spirit' (Question 4 of the survey), which in turn is dependent on facilitating and developing a person's creativity and initiative – key features of the progressivism of the 'new vocationalism' (Bates *et al,* 1998) – is evidently not to be encouraged.

**ATTITUDES OF EMPLOYERS TOWARDS THE ADOPTION OF COMPETENCE-BASED APPROACHES TO LEARNING, PARTICULARLY AS AN ALTERNATIVE TO THE CURRENT DISCIPLINE-LED, HIGHER-LEVEL COURSES**

As the qualitative findings showed, Level 2 NVQ programmes were introduced into the industry for operatives and process workers, with employers reporting a marked degree of success of their contributing to workforce morale and motivation. However, these same employers did not see NVQs as representing the alternative form of VET that they are seeking for their higher-level technical staff.

For higher-level qualifications (e.g. those leading to HNC and above) there was no overt enthusiasm for, or perceived practical benefit in, substituting exam-based assessment routes by competence-based forms. All interviewees felt that for higher-order occupations, where theoretical knowledge is perceived as vital, NVQs in their present form were not a panacea, which runs counter to the aim of the NVQ framework to provide an overarching system allowing progression to these higher levels. Instead, there had been a suggestion from representatives of the colorant-using sector for maintaining separate tracks for qualifications at this level or, alternatively, for devising a hybrid qualification by combining competence

assessments with more formalised assessments of generic knowledge. Although these sentiments seem to concur with the positions adopted by both Debling (1991) and Jessup (1991) and would certainly help deflect some of the criticisms from the educational community about the paucity of knowledge in NVQs, they overlook what the qualitative data unearthed regarding employers' negative attitudes towards learning that is not specific to their immediate business needs. They also conflict with Alan's claims (Chapter 5) regarding certain employers' dislike of Modern Apprenticeship schemes because of the dualistic nature on which their training requirements are modelled.

Respondents to the questionnaire appeared to be either undaunted by, or oblivious to, what offering NVQs would entail for their organisations in terms of their becoming 'centres for learning', or for the need to establish a culture of 'continuing learning' among the workforce. Thus, it was possible that they had not fully thought through the implications of introducing them. Those with first-hand experience of NVQs had encountered certain administrative difficulties; and even devotees of the system (Edward for example) had warned of the dangers in failing to read the 'small print'. Other researchers have also reported administrative problems, especially with regard to the huge increase in time spent on assessment procedures, the result of which impeded the operational functions of the business (e.g. Raggatt (1994); Bates & Dutson, (1995); Wolf (1999)).

## REFLECTIONS ON METHODOLOGY-RELATED ISSUES

### *The shift in my paradigmatic position*

As stated in Chapter 3, at the outset I was never committed to any one particular research paradigm – at least, not from an epistemological standpoint. Moreover,

despite Bulmer's (1984) and certain others' insistence that the choice of research strategy and techniques are rarely independent of philosophical issues, my own decision to adopt a mixed-method approach, incorporating a quantitative survey as the primary mechanism of data-collection had, rightly or wrongly, been taken on purely practical grounds and not because of any obvious epistemological considerations.

Nonetheless, as I became increasingly caught up in the design and construction of the questionnaire for the quantitative phase, I became progressively more convinced that research in the positivist tradition was the best way forward for uncovering the 'reality' of what I was going to be researching. I believed that it would be possible to gain a purely objective insight into employers' views on the issues in which I was interested. A questionnaire survey, I reasoned, would eliminate scope for personal interaction, which might have a distorting effect, and would enable me to stand back from what I was researching in order to obtain a completely value-free, independent view. Also, having previously worked in a science-based industry, the idea of subjecting the resultant 'hard' data to systematic analytical techniques appealed to my scientific instincts.

Another reason why I favoured this approach over a purely qualitative study was the likelihood that the latter would involve undertaking a large number of interviews, which would have been unmanageable within the constraints of my every-day workload. Although as an 'insider' I was not in the position of being 'at the bottom looking up' as far as knowledge of the industry was concerned, and was thus free to concentrate on the salient issues of the research, as an interviewer I was every bit a novice. I was certainly no expert in questionnaire design either. However, in the short term, it was relatively easier to bring external expertise to bear on this issue than to attempt to develop my interviewing skills.

In addition to these technical difficulties, I envisaged there being more fundamental problems in relation to the significance of the qualitative findings themselves. One issue that was not immediately apparent was how the findings could lend themselves to generalisation. Within the nomothetic methodology of a survey where one is dealing with a large number of responses, this did not seem to pose a problem. But, with qualitative data, how could one confidently generalise from a much smaller number of cases to the target population? Although I briefly outline below how I feel that I have got around this difficulty with the interview data that I generated, at the initial stage, the problem seemed intractable and reinforced my belief that a survey approach was the better way forward.

Even at the interview stage, I was still operating within an objectivist epistemological framework trying to control any possible sources of bias and convinced that I could uncover the 'reality' of what I was researching. However, at the same time, I tended to subscribe to the view (and still do for that matter) that reality is a pluralistic concept – it is different in the minds of different people. Yet, for some reason, this did not lead me towards the logical conclusion reached by Guba (1990) that because reality tends to be understood differently by different people, a subjectivist, interpretive epistemology would be the most fruitful way of trying to access it (cited in Sparkes, 1992).

It was not until I began the in-depth analysis of the data from the qualitative phase that I realised how much my interpretations of it had actually been dependent on my personal involvement as a former 'insider'. I had felt that I could readily engage with what the interviewees had said without having to resort to deduction or inference (which had been the case with the quantitative data). Thus, the idea that I could enter the research process as an 'empty vessel', free of any tacit knowledge or personal assumptions about the industry context in which I had worked for so long,

proved to be totally misguided, as had been apparent from the degree to which I had unconsciously allowed myself to interact with the respondents during the interviews. Even the questionnaire, which I had believed was a value-neutral method of data generation, had not been free from personal interpretation. I later came to realise that in constructing it, and in subsequently making knowledge claims from it, I had actually been a participant "in the process of making social reality" (Smith, 1989, cited in Sparkes, 1992, p27).

In essence then, the qualitative data proved, to me, to be at least as illuminating as the quantitative to the extent to which it played a key role in the interpretation of the overall findings.

***Potential for generalising the qualitative findings***

I have argued earlier that the views expressed are likely to extend beyond those of individuals to the wider industry population. The question remains as to how confidently these can have a wider significance for other industry settings.

A lot of the findings from my study have been shown to be analogous to those of other industry-based studies. As such, I believe that they may be used for comparison with, and thus help form judgements about, other similar situations in a process akin to what Stake (1978) has referred to as *naturalistic generalisation* (cited in Schofield, 1989).

***The cases investigated***

For the purpose of literary convenience, the terms 'employers' and 'industry' (and its sub-sectors) have sometimes been used throughout the thesis as though they are interchangeable concepts. However, it was never the intention to solicit the views of the whole industry body. Rather, the aim has been to concentrate on the

‘managerial’ (in the broadest sense of the term) perspective, the reasoning being that this is the organisational level at which decisions on education and training for the industry are made.

Even at this level, the notion of ‘employer’ is problematic. It is a multiple concept, as shown by the varied professional make-up of those responding to the questionnaire, who have revealed themselves to be part of a diverse occupational grouping ranging from trainer to factory owner. By the same token, the investigation has exposed multiple perspectives within that grouping, which have no doubt been shaped to varying degrees by the products of their occupational backgrounds, assumptions and life experiences.

I have been conscious, throughout, that the data obtained relate to those individual employers located in a particular time and place, and that the views expressed by them do not necessarily represent those of their respective organisations. Nevertheless, I would argue that, because of the heterogeneous cross-section of the cases studied, their overall perspective can be considered sufficiently robust to extend beyond that of a group of individuals to being representative of what, for convenience, may be termed the general industry. However, the idea of an ‘industry perspective’ implies that the industry is a single entity with a life of its own which, as discussed below, is in itself problematic.

Closely related to my above reflection on the movement away from an objectivist to a subjectivist–interpretivist epistemology is a reference I made earlier (Chapter 3) to the relevance of *social action theory* (O’Donnell, 1997) in helping me explore interviewees’ understanding of their situation. My concern about assuming an industry perspective is that reifying industry in this way alienates the industry and its education and training system from the people within it who, as individuals, create,

influence and interpret developments in that area. This in turn reinforces my contention that, of necessity, the study reflects individual employer views, (which may or may not be representative of the industry body as a whole).

**POSSIBLE AREAS FOR FURTHER RESEARCH**

(i) Limited by my choice of research methodology, one aspect that proved to be elusive was concerned with employers' perceptions on how and by whom NVQs had been introduced into their organisations. Although this had surfaced at the interview stage, it had subsequently been felt that the depth of information required on this topic could not be accessed adequately through a questionnaire. Therefore, to gain a meaningful insight into the issue, I suggest that it would need to be investigated in the context of a more probing qualitative study involving face-to-face, in-depth interviews with a cross-section of employers whose companies have introduced the qualifications.

(ii) It would also have been useful to explore more fully employers' attitudes to different approaches to the provision of VET, particularly their feelings on distance-learning courses especially as, given the decreasing number of teaching centres, these are likely to constitute the future mode of provision. It would be interesting to see how such courses, with their potential for allowing curricular flexibility, could be designed to articulate with companies' own internal training, hopefully helping to overcome employers' dissatisfaction in this area.

(iii) A less tangible issue to surface related to the 'morale-boosting' effect that the introduction of NVQs had on employees. Although this was evident at the lower organisational levels, affecting people without recourse to formal qualifications, it would be interesting to learn whether, by extending the NVQ system, a comparable effect would emerge at the higher levels where nationally recognised qualifications already exist.

**IMPLICATIONS OF THE STUDY FOR FUTURE POLICY AND PRACTICE**

In attempting to sum up the views of employers on the current education and training system for the industry, it is evident that there is a considerable degree of ambivalence towards what, for them, constitutes 'really useful knowledge' (Johnson, 1988) and towards how training in general should be organised. A divergence of opinion is perceptible not only between the two sectors or among the different categories of respondent within those sectors, but throughout the industry as a whole.

At the outset of this study, the established orthodoxy for VET policy and practice pertaining to the relevant education establishments, the professional body, and certain industrial organisations, had always been located in *classical humanist* ideology (Bates *et al,* 1998) focusing on high academic attainment substantiated by rigorous, written, end-tests. Although there has been some move towards more progressive practices, a strong emphasis on theoretical content still persists. The difficulty that this research has brought to light is in being able to convince employers that the current knowledge-led provision is not misrepresenting the industry's needs and that knowledge ultimately does have a relevance to occupational practice —that is, it can be linked (using Jamieson's terminology) to the 'real world' (cited in Hodkinson, 1991). However, the latter has argued that industry in general contends that " ' real-world' problems do not fall neatly into academic subject divisions" (Hodkinson, 1991, p81) and, indeed, this research has shown that employers favour learning that has been acquired over time in the workplace in preference to that which has come directly from an academic setting —in other words, a preference for learning on their terms, one imparting experiential knowledge, which is readily re-contextualisable into their companies' work practices. What, then, passes as knowledge to them is blatantly designed to serve the dictates of instrumentalism – not "thinking for its own sake" (p77) – but treating what is learnt in terms of its practical outcomes. As Eraut (2004) maintains, it is only in knowledge-intensive contexts

where theoretical knowledge is explicitly drawn on, as has been demonstrated here in relation to research and development departments.

Based on what has emerged from the questionnaire responses, in spite of their support for the personal development of their staff, the majority of employers surveyed appear not to value education for its potential to foster an entrepreneurial spirit among their respective workforces. This contrasts with findings in a number of other industry sectors where it has been noted that employers have begun to recognise the value of harnessing their non-managerial staff's knowledge and ideas for the benefit of the business (e.g. Keep & Mayhew, 1988). It is also at variance with the notion of developing an 'enterprise culture' which, under the earlier Thatcher administration, was a key element of its competence-based ideology for vocational education (e.g. Coffield, 1990). Focusing on a narrow, company-specific curriculum organised around immediate business needs inevitably stifles employee creativity, individualism and personal autonomy. It therefore appears that the only way that an individual is able to gain any measure of personal autonomy is by way of 'academic autonomy' through "mastery of the subject" (Bates *et al,* 1998, p118); and, in the light of the apparent deference shown by employers to high academic achievement, even though this is not necessarily carried over into the workplace, it is likely to be the only form of autonomy that employers would be prepared to sanction. Perhaps it is this version of autonomy, which is "often associated with academic elitism" (Bates *et al,* 1998, p119) that has given rise to the tensions and dissatisfaction surrounding the current VET system among much of the industry. Moreover, given this narrow-minded view, it seems unlikely that employers would be willing to invest further in a system with which they are not entirely happy. Yet, as the recent White Paper reveals, the present government still believes that it can secure "a higher level of investment and engagement in training from employers" in exchange for a system that purports to be "directly led by their needs [and] that meets their skills priorities"

(DfES, 2005, p11). This belief seems to run counter not only to the findings on the views of employers in this study, but on those of employers generally.

As noted in Chapter 1, the coloration industry is, by and large, a 'mature' industry with many of its companies, particularly those in the colorant-using sector, dominated by Fordist methods of production. Fordism is designed to operate in stable markets; yet the industry is one that is constantly changing, technologically as well as in terms of market demands. In this ever-changing climate, forays into post-Fordism – in the guise of the introduction of state-of-the-art technological automation and mechanisation – have been pursued by many companies. The result is that, in addition to their primary functions, technical and managerial staff now have the wherewithal to perform what were the manual tasks previously undertaken by operatives and process workers. While this may have secured the jobs of these residual *core workers* (Atkinson & Meager, 1991), it has, by default of the diminished requirement for unskilled labour, raised the overall level of skills requirements for the workforce. Thus, if there is to be any chance for companies to survive, future employment looks likely to be more dependent on securing a pool of well-educated and trained staff than at present. Not only will this be necessary for the long-term well-being of the industry, there is also the social obligation of ensuring that young people coming into the industry have access to a range of knowledge-based vocational qualifications offering 'theoretical breadth' so that their potential for future mobility is not compromised in any way.

Given this need for highly-educated *knowledge workers* (Hodkinson, 1998), it might reasonably be expected that employers would be insisting on a post-Fordist, state-of-the-art education and training system to match that of the technological changes that have been taking place. Yet such insistence does not feature in the employers'

demands contained in this study. What persists is a preference for a much narrower form of learning, restricted in terms of tasks and knowledge.

At the macro level, as Hodkinson (1998) points out, much of government policy on VET is predicated on post-Fordist rhetoric. Indeed, the official line put out by the various administrations over the past three decades is shot through with references to the need for developing and maintaining a high skill-base to meet the demands of a post-Fordist economy. However, this fails to recognise the deep-seated, socio-cultural attitudes to training that characterise 'mature' industries like the coloration industry and which make it difficult for them to move in that direction. It also overlooks employers' concerns with occupational relevance that dominates their responses to the call to support a broad vocational curriculum. The reality of the situation then is that vocational education is "a compromise between the characteristics needed [by young people and adults] in the longer term and the skills and knowledge that companies can see as immediately useful to them" (Finegold & Soskice, p38).

Therefore, it may be that some form of government intervention is required, perhaps along the lines of the levy/grant system operated by the former Industry Training Boards (ITBs). However, whilst this may serve to increase employers' investment in training, if the type of training favoured follows the NVQ route, then it is highly unlikely that it will result in employees gaining the broad theoretical education referred to above. The government's persistence with post-Fordist beliefs is incompatible with its defence of standards-based vocational education, which seems to have more in common with Fordism. This is apparent at the organisational level where the introduction of NVQs has given rise to an increase in the bureaucratisation of the VET system in terms of the escalation in the amount of paper-work and administration it has imposed. More importantly, the temptation to 'fast track'

students through the system for financial or employability reasons (as was the situation reported by Frank) inevitably results in a narrowing, rather than the hoped for broadening, of their educational experiences thereby driving them “into the same low-skills equilibrium that Finegold and Soskice (1988) argue has so damaged other parts of British industry” (Hodkinson, 1998, p201).

Finally, I would argue that the findings overall have thrown up several valid points, which employers and, particularly, education and/or training providers may find helpful. The coloration industry is a highly technological, science-based industry; and the fact that employers have not dismissed the current external VET system out of hand, coupled with their uncertainty about replacing traditional courses and assessment procedures with NVQs, suggests that they themselves recognise that the acquisition of a broadly underpinning technological and scientific knowledge is essential for the industry’s survival. Whilst it is true that they hold the instrumental view that education and training should help improve their profit margins, their stance on this needs to be understood in the context of the often volatile economic and globally-competitive climate in which they operate.

The overall evidence indicates that there is scope for all relevant parties firstly, to gain a better understanding of the constraints under which each operates (including an appreciation of the differences between the types of knowledge that are acquired in different settings); secondly, (and not least to ensure the provision of worthwhile, quality training for young people going into the industry) not to be seduced by the immediacy of training that NVQs purport to provide; and thirdly, not dismantle what is already in place for vocational education and training, but to build on this in a way that is meaningful and beneficial to all concerned.

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