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paths to success

Practical and vocational learning undertaken by young people

Practical and vocational learning undertaken by 'academically-able' young people aged 11–16 in England and Wales – what we know, and what we don't know.

Summary

In this article for the Edge Foundation, Professor William Richardson suggests that:

- the GCSE subject timetable experienced by most 11-16 year olds in England and Wales is based largely on a 'grammar school curriculum'
- secondary education places a higher value on conceptual (knowledge-based) learning than on applied (practical) learning
- practical and vocational education is regarded very largely as a means of enhancing the motivation of learners of average or below average potential
- information about the volume of practical and vocational learning undertaken by academically-able young people in schools in England and Wales is not systematically collected
- virtually no research has been carried out to examine the impact of practical and vocational learning on 'academically-able' young people

Professor Richardson goes on to review the ways in which ability is currently assessed. Finally, he puts forward an initial estimate of the volume of practical and vocational learning currently undertaken by academically-able young people aged 11–16 in England and Wales.

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Section 1

Post-war development of practical and vocational learning in the secondary curriculum

In England and Wales, initial energy in developing a more practical curriculum was concentrated in the development of a non-examined secondary modern school experience (Taylor, 1963), before being carried forward into reforms of the subject curriculum first sponsored by the Nuffield Foundation (from 1962) and later taken up by the Schools Council (1964–84). However, even within the comprehensive schools which were by then gaining ground, at the close of the 1960s commentators noted that the emergent practical curriculum, influenced from America, coexisted as a junior partner and poor relation alongside 'revered academic traditions' (Goodson, 1983, 23).

After the long post-war boom, the impact of economic recession on opportunities for practical and vocational education was first felt in 1971/72 (Richardson, 2007: 404), coincidentally the year in which young people approaching their 15th birthday were required, for first time, to stay in full time schooling to age 16. This nexus, coupled with deepening economic crisis during 1973–76, helped ensure that for the next decade practical and vocational education became strongly associated with the education of the young unemployed. At the same time, education research was becoming increasingly influenced by sociology with the result that it was debates about economic determinism, rather than the pedagogical impact of such learning, that came to dominate policy and practice (Richardson, 2002: 30–31).

The Prime Minister of the day, James Callaghan, chose this moment to set out a curriculum challenge to state secondary schools – that it should be both more focussed on the basics while also introducing, for example, 'more technological bias in science teaching that will lead towards practical applications in industry rather than towards academic studies'. This, he asserted, would serve to guard against schools merely 'producing socially well-adjusted members of society who are unemployed because they do not have the skills' (Callaghan, 1976: 335).

The result in England and Wales was a renewed interest in the practical curriculum, as manifested in the increasing availability from the late 1970s of pupil work experience off school premises and the bringing into schools of 'adults other than teachers' (championed by the Schools Council Industry project (SCIP) from 1977).

This culminated in the largest single curriculum innovation project seen in this country – the £1bn. TVEI of 1983–98 – and the subsequent formalisation of much of the practice developed in courses of study leading to qualifications such as BTEC certificates (from 1984), GNVQs (1992–2007) and vocational GCSEs (from 2002).

A question that continues to bedevil such awards, and which is rooted in the historic context just provided, is why the vast majority of candidates for such courses from state secondary schools appear to remain those with below average prior attainment. Although this process of cultural marginalisation is widely acknowledged, systematic, cumulative and detailed research is lacking as to how it has been maintained and reinforced within the curriculum, for example in relation to guidance practices within schools and the targeting of groups of students at the age of 13+ for participation in particular types of courses. However, having said this, it also needs to be recognised that a separate legacy of curriculum change over the period has been the infusing into the curriculum of generic, non-assessed learning of a practical kind which is undertaken by students of all abilities – most notably aspects of personal and social education, and the work experience which most 14–16 year olds undertake (Saunders et al., 1996).

Meanwhile, in a quite separate sphere over the period under review there has been a parallel set of less well known traditions of practical education. This is the distinctive sphere of 11–16 education undertaken in independent schools, the remaining selective grammar schools and in some specialist schools such as city technology colleges.

Once the independent school sector had overcome its own crisis of legitimacy in the late 1960s and early 1970s (Rea, 1981) and received the boost of 120 former direct-grant grammar schools joining its ranks during 1970–75 (Johnson, 1987: 18–19), curriculum modernisation proceeded apace. While traditional subject-based courses continued to dominate, these selective schools participated widely in practical curricula projects available to all schools such as field trips, Young Enterprise (through, for example, the Young Enterprise UK Company Competition launched in 1981) and courses run by Business in the Community or Neighbourhood Engineers, as well as through practical expressions of the informal curriculum such as the Duke of Edinburgh Award Scheme, various forms of community service and the creation of student membership of school representative councils.

The 164 English grammar schools (none survive in Wales) make up the other component of selective schooling. Their performance in examinations such as GCSE across their intake is by far the highest of all types of school (and in 2007, for the first time since 1975/76, the government reported the concomitantly low achievements rates in those modern schools that exist alongside state-maintained grammars). Meanwhile, of the various types of non-selective specialist schools that now exist, the small number of city technology colleges have the highest level of GCSE attainment, rivalling that of independent schools (DCSF, 2008a, Table 3; DCSF, 2007a, Table 5a).

One conclusion that can be drawn from the foregoing is that, in common with popular perception, the 'grammar school curriculum' as expressed in the GCSE subject timetable experienced by most 11–16 year olds in England and Wales continues to dominate culturally, ensuring that the form of externally-assessed learning that is most highly valued remains strongly conceptual rather than applied. Moreover, the tone set by the SCIP in the 1970s, taken up more widely by the TVEI in the 1980s and reflected in the voluminous literature on practical and vocational curricula that followed, assumes almost without exception that practical and vocational education is an activity required to enhance motivation of learners of average or below average potential in the all-ability school. Only very occasionally have academically able young people been singled out for study (e.g. Pearson, 1985) and when the research programme of the National Academy for Gifted and Talented Youth was established in 2002, an absence of relevant studies on practical and vocational education in its area of interest was revealed (information from Prof. Wendy Robinson), although there are recent, non-evaluative short descriptions of curriculum interventions of this type, for example, in grammar schools (e.g. BCCG, 2002; CITL, 2005; Bexley EBP, 2008).

Compounding this, most of the voluminous literature on the work-related curriculum generated up to the mid-1990s was 'focused on implementation rather than impact' (Saunders et al., 1996), a situation that appears not to have altered in the subsequent decade. Similarly, there is very little quality research in the crucial area of how student guidance in schools operates among students aged 13–14.

Thus, the volume of research literature bearing directly on the impact of practical and vocational learning among "academically-able" young people is very limited. But very sparse also is information relating to the volume of such learning in schools.

Section 2

Existing measures of academic ability in the 11–16 age group

Any review of existing data on measures of academic ability in the 11–16 age group highlights some of the dilemmas in this field – both in relation to how ability is assessed and what this suggests about where practical and vocational learning among this group may be taking place.

First, let us data on the measures of academic ability currently in use. In England results are published nationally at school level (maintained schools only) for Standard Assessment Tests (SATs) taken at age 7, 11 and 14 (the latter until 2008 only). In addition, a majority of maintained secondary schools in England and Wales supplement this data about individual pupil achievement at age 11 (with all that this implies about the extent to which SATs measure ability), with the results of a cognitive ability test taken the following year. For example, the CAT3, designed by GL Assessment, is taken by around two thirds of UK school students each year. The data generated may then be used as a tool for setting goals for future achievement. Alongside this, in England the government collects and publishes data at school level (including for selective state schools) on 'contextual value added' (CVA), whereby a score is derived from information about student progress and attainment in the first five years of secondary school, weighted for socio-economic factors in the make-up of the school's cohort. Although controversial in its detailed design, it is this CVA score that is currently used to provide a broad indication of the effectiveness of teaching in these schools. In Wales SATs at age 11 and 14 were abolished in 2004 and CVA measures are not published, although Welsh schools use instruments such as the CAT3 test as a diagnostic tool of individual student potential.

Meanwhile, selective grammar schools in England rely mainly on the 11+ examination as a test of ability when selecting students at that age (some also selecting on a small scale at 12+ and 13+), supplementing it with SATs scores attained by students in the final year of primary school. In parallel with this, selective independent schools rely on the Common Entrance examination as a test of ability in selection at 11+ and 13+.

Second, there is the question of what this kind of data says about the profile of ability of those young people who, in specific school or curriculum settings, may undertake a significant amount of practical or vocational learning during the age of 11–16 (or 11–15 in the case of those selective schools where students sit a majority of their GCSEs a year earlier than the average):

- during the 11–14 phase, almost all pupils in England and Wales outside parts of the special school sector, experience a subject-based curriculum in anticipation of the programmes of learning dominated by the GCSE courses that a majority of 14–16 year olds follow: differentiation of students, if this exists, is through setting/banding/streaming in relation to subject learning (Kutnick et al., 2005) and/or through the identification of students who are 'gifted and talented' (Hewston et al., 2005; DCSF, 2008b);
- during the 14–16 phase further proxy data is significant in relation to how schools assess ability and potential. This is reflected in the practices of schools when determining the most appropriate formal courses to be followed by 14–15 year olds. It is notable, however, that, once again, the research literature exploring how these process are operationalised in specific schools or through responses to external curriculum policy change (e.g. the introduction of the Increased Flexibility Programme in 2002 – see Golden et al., 2005), is very sparse, with little or no attention given to how, in practice, students are targeted or selected for courses.

Section 3

Volume and location of practical and vocational learning among academically-able young people aged 11–16: the current picture

From the types of data summarised above, a picture can begin to be assembled of some features of the volume and location of practical and vocational learning undertaken by academically-able young people aged 11–16 in England and Wales. The following analysis is based on the most recently reported data available on student participation and attainment in England and Wales.

Vocational GCSE students

Given the league table pressures on English schools to maximise student achievement at age 16, we may conclude that the cohort undertaking vocational GCSEs includes a specific group of students aged 14–15 of average and above average ability, who are undertaking practical and vocational learning.

The cohort is relatively small – of all GCSE entries, around 3.2% in England and 3.5% in Wales in 2007 were in vocational subjects, spread across 12 curriculum areas. Nevertheless, this amounted to 152,800 individual vocational entries from students, and each entry is a double award. Of these entries, approximately 29,500 secured grades A*, A or B (DCSF, 2008a, tables 3 and 14; WAG, 2007c: Table 2.8). As figures are not reported for the number of vocational GCSEs that individual candidates aged 15 take, the extent to which these candidates are undertaking 'significant amounts' of practical and vocational learning beyond one double award remains unclear.

Welsh Baccalaureate Intermediate Diploma and GNVQ students

14 and 15 year old students in Wales can follow the Welsh Baccalaureate Intermediate Diploma, a qualification aimed at able students and involving substantial elements of practical learning, including a core comprising:

- four Key Skills – two at level 2 and two at level 1 – which must include Communication, Application of Number and IT
- working with an employer team
- enterprise and community
- participation reports
- individual Investigation at level 2 (WAG, 2007a).

In August 2006 332 students successfully completed Welsh Baccalaureate Intermediate core learning (WG, 2007b). The proportion of these awards going to pre-16 learners in this, its pilot year, is not clear but the 1,113 students aged 15 in Wales who were awarded an Intermediate GNVQ in the last year of operation of that qualification (2007: WAG, 2007c: Table 2.3) may be indicative of the likely numbers that will be taking the Welsh Baccalaureate Intermediate over the next few years.

Meanwhile, at least 75,000 students in England aged 15 obtained a full GNVQ award in 2006, the penultimate year of the award before its withdrawal (DCSF, 2007b, table 3.5). The proportion gaining this at Intermediate level and with a specific grade (distinction, merit or pass) is not reported in DCSF data but if this is similar to proportions to Wales, the overwhelming majority of entrants will have been at Intermediate level, with around 37% – say, 28,000 candidates – obtaining awards with distinction or merit. The policy assumption is that in future years many students formerly in the GNVQ group will opt for Level 2 Diplomas (for which, see below).

The successors of high-attaining students in the former GNVQ cohort who, from 2008, undertake the Welsh Baccalaureate Intermediate Diploma, the English Intermediate Diploma or several vocational GCSEs, are a group of students of strong interest to the Edge Foundation's research programme.

Students in types of school: grammar, independent and high-attainment community schools

Given the selective nature of the 11+ and the exceptionally high GCSE attainment rates of grammar school students, we may conclude that these schools educate a highly able group within the 11–16 population in England. Thus, the impact of all elements of practical and vocational learning that grammar school students undertake – both formal and informal, where this comprises a significant amount of the students' learning – is of strong interest. Other schools where GCSE results suggest a student cohort of higher than average ability include highly selective and high-achieving independent schools and community schools serving catchments notable for their proportion of high-achieving students. The context in which such learning is taking place in state-maintained schools (selective and non-selective) is likely to include curricula that are related to schools' specialist status.

Diploma students

Even though the first cohort of Diploma students commenced study only in the autumn of 2008, we can be sure that the future reputation of the courses that lead to the new award will be strongly influenced by the proportion of able students that are entered by schools and colleges. In practice, this means that the prior achievement and subsequent performance of the 6,130 Level 2 (aged 14+) and 1,416 Level 3 students (aged 16+) who commenced study in 2008/09 (BBC, 2008) are of particular interest, not least because, as with Welsh Baccalaureate awards, Diplomas have the potential to be conceptually rich programmes of practical and applied learning.

As indicated earlier, and based on former GNVQ numbers, the Level 2 Diploma has the potential by the mid-2010s to attract students in the high 20,000s who may go on to gain the level 2 Diploma at the higher grades. (Note: some of those who would formerly have studied Intermediate GNVQ may now be among those taking vocational GCSEs. These GCSEs would appear to be a good fit in the 'additional and specialist learning' which is a component of the full Diploma at Level 2).

14–16 year old students undertaking other forms of practical and vocational learning

A large majority of 14 and 15 year olds in England undertaking significant amounts of practical and vocational learning through other designated courses are probably those involved in the Increased Flexibility Programme (IFP), designed to 'create enhanced vocational and work-related learning opportunities for 14–16 year olds of all abilities who can benefit most'. By 2004 this cohort represented around 40,000 young people in each of the two year groups; of these only approximately one third were undertaking vocational GCSEs (Golden et al., 2005: 2). With a large segment of this target group pursuing study within the IFP at level one (ibid.), it is unlikely that 'academically able' IFP learners will be following practical or vocational courses equivalent to GCSE in significant numbers.

Summary

From this brief survey the following conclusions may be drawn concerning the potential location and numbers of learners aged 11–16 in England and Wales who fall within the description of 'academically-able 11–16 year olds who undertake a significant amount of practical or vocational learning'. Students in seven relevant groups may be divided into two bands, based on the proportion of their 11–16 learning which is practical and/or vocational.

A: academically able students undertaking substantial amounts of practical and/or vocational learning:

- students in Wales, currently and prospectively, who obtain a high grade in the Welsh Baccalaureate Intermediate Diploma – perhaps 500+ if such students are those who formerly would have achieved distinction or merit in Intermediate GNVQ and may now include vocational GCSEs in their Baccalaureate Intermediate Diploma programme of study;
- students in England, currently and prospectively, who obtain a high grade in the Level 2 Diploma – perhaps 25,000 by 2015 if a large majority is students who formerly would have achieved distinction or merit in Intermediate GNVQ, along with a much smaller number who include one vocational GCSE (double award) in their Diploma programme of study;
- an unknown number of students in England and Wales who take two or more vocational GCSEs and who obtain grades A*, A and B (?1,000-2,000 students).

Total out of a year group population (England and Wales) of 695,000: perhaps c.27, 500 (c.4%).

B: academically-able students undertaking significant practical and/or vocational learning of less substantial volume:

- students in England in grammar schools who participate in formal and informal curriculum activities that are practical/vocational, but who do not undertake externally-assessed courses primarily of this nature – perhaps 22,500 (90%) of the student population of c.25,000;
- students in Independent Schools Council schools in England and Wales who participate in curriculum activities that are practical/vocational, but who do not undertake externally-assessed courses primarily of this nature – perhaps 37,800 (90%) of this student population of c.42,000;
- students of above average ability in England and Wales in above average attainment non-selective state-secondary schools who participate in curriculum activities that are practical/vocational, but who do not undertake externally-assessed courses primarily of this nature – perhaps 130,500 (90%) of this student population of c.145,000
- students in all schools who, in an otherwise subject-based set of studies, currently obtain a high grade in a vocational GCSE (double) award – perhaps 28,000 students from among the approximately 30,000 entries which currently are awarded at Grades A*, A and B in 2007;

Total out of a year group population (England and Wales) of 695,000: perhaps 220,000 (c.32%).

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