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Part 21

CONFIDENTIAL FILING

General Policy on Education
[Report of the National Curriculum Design and Technology Working Group - in attached folder].
(Final Report of the National Curriculum Design and Technology working Groups in attached folder) 2nd Fraser Wash National Curriculum Papers

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3/6

Paul Gray Esq
Private Secretary to the
The Prime Minister
10 Downing Street
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30 June 1989

Dear Paul

FRIERN BARNET COUNTY SCHOOL: HMI INSPECTION REPORT

I enclose a copy of the HMI Inspection Report on Friern Barnet County School, which was inspected towards the end of last year and lies within the Prime Minister's constituency. Mr Baker has suggested that the Prime Minister's attention might be drawn particularly to the conclusions and recommendations in paragraphs 69-71, and to the difficulty of teacher recruitment in paragraphs 40-41.

The report is being published today.

Yours sincerely

J RATCLIFF
Private Secretary

DEPARTMENT OF EDUCATION AND SCIENCE

REPORT BY HM INSPECTORS

on

FRIERN BARNET COUNTY SCHOOL

LEA:- LONDON BOROUGH OF BARNET

INSPECTED:- 14-18 NOVEMBER 1988

Copies of this Report may be obtained from the Department of Education and Science, Publications Despatch Centre, Honeypot Lane, Stanmore, Middlesex HA7 1AZ, or the
Local Education Authority
Town Hall
Friern Barnet
LONDON N11 3DL

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INTRODUCTION

1. This report is written in the light of an inspection of Friern Barnet County School by a small team of HMI. Only certain aspects of the work and life of the school were inspected and not all teachers were seen. The report does not seek to provide an extensive description of the whole school as provided in a traditional full inspection report.

2. Friern Barnet County School is a comprehensive school for boys and girls aged 11-16. It was originally the Friern Barnet Holly Park Modern Secondary School established in 1945 which moved to the present school buildings in 1960. It became a four-form entry 11-16 comprehensive school in 1978. It maintains a special relationship with Woodhouse Sixth Form College, pupils having an automatic place if they wish to apply. It is situated on a compact site adjacent to the county primary school within an attractive residential area. The school shares its premises with the adult education centre which makes extensive use of its facilities in the evening.

3. The school's aims have recently been produced as the result of staff discussions. They make clear and appropriate reference to the personal and social development of pupils, the development of their knowledge and skills as well as the confidence and flexibility to continue learning after leaving school. They were written before the school received the local education authority (LEA) new curriculum guidelines for secondary schools. As a result, while these documents share common features, the school aims do not identify how they contribute towards the LEA aims. For similar reasons individual department aims do not show how they contribute to those of the school.

4. At the time of the inspection there were 595 pupils on roll (305 girls and 290 boys), most coming from the immediate area. The school is popular and has been over-subscribed for at least the past five years. On the school's reckoning about half the children come from backgrounds that are neither prosperous nor economically disadvantaged, while the other half are divided equally between relatively prosperous and economically disadvantaged backgrounds. Sixty-two children (10.4%) are entitled to receive free school meals. The area offers good employment opportunities. In 1987, the most recent year for which figures are available, 27.7% of school leavers moved straight into employment, while a further 64.7% continued in full-time education and 4.2% joined the Youth Training Scheme (YTS).

5. The school has identified 161 pupils (27% of pupils on roll) who speak languages other than English at home. Most speak either Gujarati (51 pupils) or Greek (47 pupils), with 21 other languages completing the list. The great majority of these pupils are fluent in English.

6. Links with those primary schools which send children to Friern Barnet County are made through the Head of Lower school who visits to discuss any particular problems. This valuable pastoral liaison does not extend to curricular links although five primary schools provide LEA mathematics record cards for pupils which contribute to their placement on the commercially published individualised scheme used in Year 1. LEA primary transfer cards provide relatively little currricular information although there is considerable variation between schools. No pupils' work is passed between schools.

QUALITY OF PUPILS' WORK

7. The classroom atmosphere is pleasant and purposeful and pupils are generally well motivated. Most classes, especially in Years 1 and 2, are set clearly defined objectives and the work is well organised. Teachers' expectations are well matched to the needs and abilities of average pupils but are not always suitable for others. The structure of the work is not always well adapted to the abilities of the less able pupils, so that they find it difficult to involve themselves fully and lose motivation. More able pupils generally have too little opportunity to take responsibility for managing their own work or to contribute to the exploration of ideas or concepts. There are notable exceptions. In modern languages some work is planned to provide scope for pupils to use their initiative, including making their own tape recordings for homework. In craft, design and technology (CDT) opportunities are provided for pupils to organise their own work, especially in Years 4 and 5. In computer studies, the projects selected by pupils often reflect their own interests and result in good GCSE work. Some pupils are given scope to do work of their own choice in typing.

8. Standards of behaviour are generally good. Problems are few and where they did occur it was often because pupils were offered inappropriate work. Relationships between teachers and pupils are good, supported by the care and concern the teachers show for pupils' academic and personal development. Pupils relate well to each other although some instances of over-boisterous horseplay between boys were seen in corridors. Boys generally tend to relate to boys and girls to girls, but within these groupings pupils from different cultural heritages mix well. Opportunities for them to work co-operatively are too few, although some exist in modern languages, social studies and sociology. Little use is made of the rich cultural diversity represented in the school to help pupils' understanding of a multi-cultural society.

9. Twenty-five pupils need help with English as a second language. This is provided by a member of the LEA multi-cultural education and language support service (MELSS) who offers support appropriate to the pupils' needs both in the classroom and by withdrawal from lessons. There is increasing co-operation between class teachers and the MELSS support teacher, particularly in history and science, but the potential benefits of information technology (IT) in this work have yet to be recognised.

10. The school receives no additional staffing for pupils with special educational needs, but half of one teacher's timetable has been allocated to providing in class and withdrawal support for them. From discussions with their primary schools and primary school records the school has identified 14 pupils in the first year requiring support. Seven of these have reading ages of less than 8.6 years and are withdrawn from some lessons for suitable help, as are two pupils in Year 3 and one in Year 2. The remainder of the time the teacher has available is used for in-class support for mathematics lessons with two Year 1 classes. No additional help is available for the remaining seven pupils in Year 1 or for others who may be identified by subject teachers as requiring help. Although the quality of support given is good and includes extra time given by the teacher at lunchtime to help pupils having difficulties with homework, the amount of time available is inadequate.

11. On three mornings a week the LEA support service for children with specific learning difficulties (SSCSLD) provides help for nine pupils. It was not possible to see this work as the teacher was absent during the week of the inspection.

12. Little special provision is made for gifted children, although one member of the mathematics staff provides six Year 5 pupils who are particularly able mathematicians with extra lessons after school on two nights a week.

13. The dominant mode of talk in the classroom is question and answer or the completion of statements begun by the teacher. This results in a narrow and undemanding experience of the spoken word. During the few instances of small group work, for example, during practical work in IT and science the quality of talk improved. In one English lesson where pupils worked in groups devising and carrying out their own assignments on the study of a novel, the quality of discussion was noticeably higher than in other English lessons. Pupils used talk to extend and refine their understanding in history and in some social studies lessons when groups or pairs had to agree an answer to a set of questions and justify their position. Good discussions were observed in art, both between pupils and the teacher and among pupils themselves. The individualised nature of the mathematics course in Years 1 and 2 provides little opportunity for discussion beyond situations where pupils require help from the teacher. However, staff are aware of this problem and sensibly ensure that they discuss current work with pupils to help counteract this potential isolation. In modern languages pupils work for some of the time in pairs, but too much of their conversation is in English and centred on narrow tasks that give little scope for improvisation. By contrast the setting of tape-recorded homework provides good scope for the development of oral skills. Those pupils involved with the school council have good opportunities for discussion within the council and as representatives reporting back to their tutor groups. While role play does feature in some English lessons, the absence of drama from the curriculum restricts the development of oral skills. While pupils are articulate, there are insufficient opportunities to develop the use of the spoken word or to use talk as a medium for learning.

14. In Years 1 to 3 much writing is aimed at reproducing information rather than analysis and is dominated by restricted tasks which allow little opportunity for developing a variety of skills of expression. For example, in modern languages pupils write within strict guidelines that allow them too little scope to explore the language for themeselves, and in geography and history much of the writing consists of short answers to questions. The re-drafting of written work is rare even in English: no use is made of word processors, which are readily available, to shape and polish writing. However, the range of writing is good in English lessons, limited only by the lack of poetry writing in some classes. In science, pupils write their own accounts of experiments. Music lessons make an unusually valuable contribution in that pupils are required to write about their personal responses to playing, composing and listening. Although, on balance, standards of writing in Years 1 to 3 are adequate, many of the assignments lack differentiation for pupils of different abilities and so limit opportunities for more able pupils to demonstrate their full potential and provide insufficient help for the less able.

15. In Years 4 and 5 the quality of writing improves, primarily in response to work relating to the GCSE. For example, in English the range of writing broadens and drafting becomes more common, enabling the less able in particular to improve the quality of their work. The more able, however, have insufficient opportunity to undertake extended independent work. The office technology and communication (OTC) course requires writing in a business context; good presentation and a sense of the readership for whom the writing is intended are emphasised. There is more extended writing in science; for example, for able pupils in physics. Modern languages writing is still largely on closed and over-structured tasks, but some good pieces of extended free writing in French resulting from an exchange visit to France demonstrated what can be achieved with more open tasks.

16. Most pupils are able to read at a satisfactory level or better. However, there is too little opportunity for them to extend their abilities, and research skills such as analysis and interpretation are weak. The restricted opening hours of the library and its paucity of stock are contributory factors. Opportunities to extend reading habits are greater for pupils in Year 1, where there are library periods, than in other years. Those pupils who are committed readers restrict their choice to a small number of authors. Insufficient opportunities are created for pupils to develop their reading tastes. Shared reading is at the heart of the English course and provides the bulk of pupils' reading. The provision of foreign language material such as magazines is better than usual although these resources are under-used. Elsewhere in the curriculum much of the reading is of textbooks and worksheets.

17. The lack of extended reading becomes more noticeable in Years 4 and 5 where GCSE courses would be expected to provide suitable opportunities. By giving up most of their physical education the more able pupils are given the opportunity to opt for English literature in addition to the English course which is compulsory for all. Those who do not study literature lack an important opportunity to extend and refine their reading; the total separation of English from English literature deprives those pupils who take both courses of the opportunity to enrich one by reference to the other. Some of the best work was seen in geography and, to a lesser extent, in social studies where pupils are encouraged to read critically and not to take the textbook for granted. However, such examples are too limited at present and greater provision could be made to develop similar approaches elsewhere.

18. The mathematics department encourages pupils to use number in a variety of contexts and at a level appropriate to their needs and abilities. Generally, they manipulate number with confidence and accuracy appropriate to their ability, although they are less confident when working with fractions. They show a good understanding of measurement of length, estimating distances in both metric and imperial units. Their understanding of weight is less secure, many having difficulty estimating in metric units. Opportunities to develop ideas of weight are mainly restricted to number calculations and do not include sufficient practical experience. The department makes good use of calculators to develop a facility with number, and of microcomputers to practice the accurate estimation of angles. Able pupils in Year 5 demonstrated a complete and confident use of number for a variety of purposes.

19. Some valuable opportunities are provided elsewhere in the curriculum for pupils to develop their numeracy. In the accounts and the office

technology and communications (OTC) courses, they show competence in making simple calculations, although they are less certain how to divide sums of money into required proportions in the accounts course. Good use was made of graphs and bar charts in English to express the influence of different characters in the plot of a novel. Second year pupils studying the history of William I explored the changing value of money by relating the cost of villages and towns listed in the Domesday Book with those of present day housing. In home economics, first year pupils estimate and compare weights of common foods and utensils, while in physics, fourth year pupils successfully sketch graphs and make calculations while studying aspects of motion. In science, pupils measure and estimate length and capacity and use the patterns in their results to make predictions. While these are valuable contributions, missed opportunities were noted in science, particularly in the early years, in CDT, the "World of Work" course, and history. At times pupils are required to use mathematical concepts poorly matched to their experience elsewhere, most notably in geography where Year 3 pupils were presented with statistical techniques that were too sophisticated for them.

20. There is a satisfactory range of practical experience offered to pupils in several subjects. In science the emphasis on practical work in early years helps them develop good skills in handling equipment safely. These younger pupils are noticeably curious, often enthusiastic, and are willing to make judgements based on collected evidence. The older pupils, however, lack sufficient opportunities to contribute to the design of experiments, although some skills established in earlier years, such as those of selecting and processing observations and identifying patterns, continue to develop successfully. There are helpful practical elements in the mathematics work in Years 1 and 2 and for some less able pupils in later years. The application of manipulative and fine motor skills in home economics and music is well developed, although these subjects make only a limited contribution to the curriculum in years 4 and 5. Pupils use a restricted range of materials in CDT, predominantly wood, metal and plastic sheet but workmanship with these materials is not good: solutions to set tasks are stereotyped and too much work in the upper school is left unfinished. Expectations in this subject are low and the work needs to be better structured if pupils are to make progress. The art course is well structured throughout the school, offering pupils good opportunities for developing skills, particularly in graphics and surface pattern, which are well applied to textiles. The good quality achieved by pupils reflects the high expectations of staff. In dance in Years 1 to 3 and in PE, pupils need to be more analytical of their movements so that they can improve their performance through practice. Generally, pupils show acceptable practical skills in Years 1 to 3 although these are less satisfactorily developed for many in Years 4 and 5.

21. Pupils use technological equipment confidently and with reasonable competence in a variety of subjects such as business studies, mathematics, IT and computer studies, CDT, science, home economics and art. Methods of design are specifically taught in the textiles aspect of home economics and CDT. Realisation of design in CDT is undemanding in early years and makes little progression beyond stereotyped responses to set tasks. Pupils use a range of materials but few really explore the contexts in which artefacts are to be used or suggest more than a few solutions. In computer studies and OTC, pupils select from a range of solutions and often complete work of quality, some of which arises directly out of their own interests.

22. The use of information technology has hardly moved beyond the mathematics department, where the use of microcomputers is carefully

integrated with more traditional work, and business studies where it is used for word-processing, although a little is developing in home economics and CDT. Pupils' experience tends to depend too much upon which teacher they happen to encounter or the option subject they choose.

23. Some pupils in history, geography or social studies occasionally study the socio-economic implications of technology but, again, there is little cross-curricular planning and the opportunities pupils have are left too much to chance.

24. Music and art make major contributions to pupils' creative and aesthetic awareness. In music, pupils compose, improvise and perform with others, listen and respond sensitively. Despite the small numbers of pupils continuing with music as a curricular subject in years 4 and 5, a good proportion enjoy it as an extra-curricular activity. In art, the pupils use a range of materials in two dimensions but their three-dimensional experience is limited. Examples of past work from the critical studies aspect of the GCSE examination in art showed how pupils had used a variety of subject matter to good effect, including material from other cultures. In each case pupils displayed the ability to identify and analyse problems and to reach sound judgements. In several cases pupils had been able to make better critical judgements of their own activity following their analyses of others' work. Valuable opportunities to consider and respond to the creative work of others occur also in English but have yet to be properly developed in CDT. Creative and aesthetic learning in PE is neglected. While there is some opportunity for creativity in dance, the results are stereotyped. Some pupils' aesthetic experience is enhanced by their poetry writing but the absence of drama reduces the creative and aesthetic experience of all pupils.

25. Insufficient account is taken of previous learning experiences when planning provision for pupils, especially in year 1. This leads to undesirable repetition and inappropriately matched work in CDT, information technology, art, history and geography. In subsequent years more attention is paid to progression, which is satisfactory in mathematics, information technology, computer science, history, geography and science, but remains poor in CDT and inadequate in English.

26. The school has a policy that homework should be set and satisfactorily completed. Each pupil has a homework diary which is regularly checked by the class tutor and signed by parents. There is a homework timetable designed to ensure that pupils are not being overloaded with work. Pupils are not expected to spend more than 40 minutes on any subject and, generally, homework in only two subjects will be set on any one day. The work set usually contributes appropriately to the development of pupils' skills and understanding. Occasionally, teachers ask for classwork to be completed at home but rarely consider the amount to be completed. When this occurs, it tends to penalise the careful, slow, or less able pupils.

27. There are no clearly defined whole school or departmental policies for marking. Different practices include the use of traditional ticks, marks and grades. Much marking is a rather superficial acknowledgement of pupils' work with few indications as to why work was wrong or inadequate. The quantity of work marked is generally good and most marking is up to date. Comments are usually encouraging, but less able pupils are too often told that their work must improve or presentation must be better, without being given sufficient analysis of their weakness or guidence about the means of improvement. The recording of marks rarely identifies in which precise area of knowledge or skill the pupil has been assessed, so that

trends in learning over a period of time cannot be satisfactorily identified. Other systematic procedures are used to assess pupils' work. Pupils take internally-set school examinations and individual subjects have grading tests at various times during the year. While these grades and marks are recorded, they are not commonly used diagnostically. Better practice does exist in OTC where assignments are an integral part of pupils' work and contribute to a formative assessment of their attainment, and in mathematics where regular review tests in Years 1 and 2 are used diagnostically and remedial action is taken if marks are low.

28. In the last academic year, the school was part of the LEA pilot scheme to produce a record of achievement (ROA) for pupils in Year 3. Nine departments designed records peculiar to their own subject. Staff report that they found the work time-consuming and the ROA too detailed. Its future in the school is uncertain. However, vestiges remain, for example in modern languages, where the department continues to create opportunities for pupils to reflect on and assess their own work.

29. Pupils in year 1 complete a simple profile at the end of the first term and another at the end of the school year. This gives them the opportunity to comment on such matters as their attendance, punctuality, the subjects they most enjoy, their clubs and hobbies, and their progress with lessons.

30. No evidence was found that the introduction of GCSE has adversely affected the workload of pupils. Some departments for example English, have opted for courses with small proportions of coursework, while mathematics has opted for no course work at present. In a few cases, for example CDT, pupils have always been provided with a high coursework component so they are largely unaffected by the change. The school has sensibly produced a timetable of dates for the completion of coursework in different subjects so that staff may ensure that the workload of pupils is reasonable.

31. The school enters all pupils for public examination if they have embarked on the relevant course. GCSE results for 1988 varies considerably from subject to subject but were broadly satisfactory, although the percentage of grade A passes was low at 6%. Comparisons with 1987 public examination results are difficult, as the style and nature of GCSE examinations are different from the previous General Certificate of Education (GCE) and Certificate of Secondary Education(CSE) examinations, but generally they show a slight improvement. The school does not use examination results sufficiently to make systematic judgements of the quality of academic provision. No measures of pupils' ability on entry to the school exist against which public examination success may be judged, nor are the results analysed to identify trends related to such factors as gender or ethnicity.

PROVISION

32. The school is situated in a residential area on a compact, easily supervised, single site and has use of a playing field some ten minutes' walk away. Accommodation has been adapted from time to time as new subjects have been introduced and requirements altered. The result is an uneasy compromise between specialist and general classroom provision and includes some rooms that are inadequate in size or shape. General classrooms present some difficulties for specialist teaching, particularly when furniture is inappropriately arranged. Pupils' work is less likely to be displayed in these rooms than elsewhere.

33. Public and administration areas are conveniently adjacent to one another and provide broadly satisfactory accommodation recently enhanced by the provision of a small reprographics room and a medical room. However, there is no specific accommodation for interviews with pupils and parents, and this unsatisfactory situation sometimes requires the deputy head teacher to vacate his room at inconvenient times.

34. While the accommodation and furnishings are broadly satisfactory, there are some inadequacies. Science is short of laboratory space, and two laboratories which are in need of redecoration provide an unappealing environment. The CDT accommodation is overcrowded and some refurbishment is needed. The furnishings of the computer studies room are good, but there are insufficient electric power points in one business studies room resulting in the use of multipoint adaptors and too many trailing leads. In English the small size of some rooms reduces the range of teaching styles possible with larger groups. The art department is housed in a demountable classroom in which it is not possible for work to be undertaken in ceramics at the same time as in textiles and graphics. There are no cloakrooms for pupils as they have been converted to provide additional teaching space, and there are no toilets for pupils near the PE changing rooms. The language support teaching room is unsatisfactory; it is a converted storeroom with no heating and poor acoustics. There is limited play-space for energetic games and what does exist is monopolised by boys. The time required to travel to the playing field cuts into some tutorial periods.

35. The buildings and grounds are clean, with little litter or graffiti, and generally well maintained. Corridors are clean and wide and, at intervals, have small displays of good quality work which do much to relieve an otherwise severe atmosphere. Some rooms also are enhanced by good displays of pupils' work, demonstrating that work of quality is valued by staff, for example, in art, modern languages and mathematics. The foyer also exhibits good work by pupils in the art department but has little to inform visitors to the school about other aspects of the school's work.

36. Overall the level of resourcing and the quality of equipment in the school are adequate for the present curriculum, although variations exist between departments. Good book provision and use are found in history, geography, sociology, RE, humanities and for much of the work in science. The provision of fiction in English is narrow, while in mathematics the number of books is barely adequate for present needs and insufficient for slower learning pupils in Year 3. There is also a shortage of books for science in Year 1.

37. There is good provision of audio-visual aids but their use is uneven; some departments, for example humanities and modern languages, make good use of these resources, and others, for example English and CDT, make little use of them. In general, the range of equipment and materials is adequate with good use apparent in art and science. CDT has an ample supply of equipment, although much of it is dated and there are shortages in technology and drawing equipment. The department also has to rely excessively on scrap materials from industry. Mathematics has insufficient equipment for practical measuring tasks and insufficient calculators, adversely affecting some lessons when pupils forget their own calculator. Computers are well used in mathematics, business studies and computer studies, and by individual pupils in science, but they are under-used in English, CDT and humanities subjects.

38. The library is housed in a room with inadequate space and seating. The collection of texts for science and history is adequate to support the currriculum, but in most other subject areas that is not the case, and the introduction of GCSE has exposed weaknesses by increasing the potential demand. Fiction is better provided although there are not enough books suitable for less able pupils; ethnic diversity is poorly reflected. The teacher-librarian is given an insufficient allocation of two periods per week to organise the library and access to the library is limited because of the lack of library staff. Most pupils may use it before and after school and at break and lunchtimes only. Year 1 pupils also have a library period. The use of these is developing but more needs to be done to record and guide pupils' personal reading. Borrowing rates are high but no analysis has been made of patterns of borrowing to plan the future use and development of the library. Although a few departments make good use of the library, for example science, mathematics and art, it is not generally central to pupils' work. Departmental schemes of work do not refer to the use of the library, indicating a lack of planned involvement of this resource in the teaching programme.

STAFFING AND MANAGEMENT

39. Including the headteacher, there are 35 full-time and 7 part-time members of staff. This provides the equivalent of 38.4 full-time teachers and a pupil-teacher ratio (PTR) of 15.5:1; the national average is 14.3:1 for a school of this size and type. Staff, on average, teach for 77% of their time; the national average is 75.8%. This reflects the school's policy of keeping option groups relatively small in Years 4 and 5 and of providing smaller groups for slower learning pupils in Years 2 and 3.

40. There has been a high staff turnover in recent years at all levels of seniority. The school suggests that this is for a variety of reasons including the high cost of local housing. Thirty percent of the staff, including the headteacher, have been in post for less than one year, and a further thirty percent less than five years. Similarly 14 of the 24 incentive allowances have been granted since the appointment of the new head. There are 30 women and 12 men on the staff with a distribution of incentive allowances in accordance with experience.

41. The school reports that it has experienced difficulties in recruiting suitably qualified staff in a number of curricular areas, but generally the match of teachers' qualifications and experience to their teaching responsibilities is satisfactory.

42. In addition to office clerical staff ancillary support is provided in science, CDT and home economics. There is also a school officer who is responsible to the headteacher for the discipline, safety and well-being of pupils on the school premises while they are not in the care of teaching staff. Although there are insufficient clerical staff and the ancillary support in CDT is limited in the range of activities undertaken, support is overall satisfactory and well used.

43. There is no whole-school policy for staff development but many teachers have been involved with in-service training (INSET) almost entirely by their own selection of relevant courses. The areas covered by this programme of courses includes pastoral care, development of teaching approaches within

subjects, GCSE and management and administration; nearly all were provided by the local authority. In addition, 40% of the staff have added new qualifications to their initial teaching qualifications. This is a good record of involvement in INSET but the effects on the school as a whole are limited by the absence of a structure to coordinate or share these experiences.

44. The school provides a cohesive induction programme of meetings covering a wide range of topics and aimed primarily at teachers in their first year but open to any interested members of staff. However, despite a reasonable level of individual support within departments, at times probationers are too isolated in their own classrooms and lack the opportunities to see the work of more experienced and successful teachers or to be involved in cooperative teaching.

45. Written job descriptions exist only for the deputy headteachers and tutors. Although established members of staff have a good working understanding of each others' sphere of influence, the lack of clear definition of roles and responsibilities limits communication and effective working, especially where new staff are concerned. There is a good structure of management meetings. The senior management team of the headteacher and both deputies meets every Monday morning. There are two main committees, one of heads of department and the other of pastoral staff, with some valuable overlap of membership. The heads of department meet twice a term and pastoral staff meet once a fortnight. The pastoral committee includes the teacher with responsibility for children with special educational needs, the LEA educational psychologist and the education welfare officer, as well as members of the pastoral and senior staff, resulting in a valuable mix of experience, responsibility and interest. Minutes of both these committee meetings are displayed in the staff room for the information and comment of other staff. The whole staff meet three times a term and each morning before school at a briefing meeting to which any teacher may contribute items of information or requests, so helping the day-to-day administration of the school. The management and communication structure allows for good communication of information from more senior management to other members of staff. However, at the level of individual departments and year groups the situation is less satisfactory. Not all departments hold formal meetings, preferring to rely on informal communication. While this may be satisfactory for short-term organisation, it is not sufficient for longer-term planning or analysis. Where departmental or year group meetings are held they are not always minuted, and senior staff are not sufficiently aware of the nature or content of discussions or of the decisions made.

CURRICULUM AND ORGANISATION

46. On entry to the school pupils are placed in one of five classes without reference to their ability but with consideration for friendship groups established in their primary schools. There is also a concern to match the special needs to the particular skills and interests of class tutors. All children take the same broad curriculum in their first year. English, mathematics, science, history, geography, religious education, computer studies, French, art and music are taught mostly in class groups but with a further division into six groups for design and technology, home economics and textiles. Physical education (PE) is taught in these groups for two periods a week while for a further two periods the year group is divided into four.

47. Pupils in Year 2 were placed in broad ability bands in the February of their first year according to teachers' recommendation and the results of tests in mathematics, English, science, French, history and geography. The more able pupils form a band of two parallel classes of 30 children each, while less able pupils are placed in one of three parallel classes of 20 children. There are some differences in the curriculum of the two ability bands. Upper-band children study German but lower-band children do not have this opportunity. Lower-band pupils spend more time than do upper-band pupils in studying religious education and social studies.

48. The banding system continues into Year 3. For mathematics upper-band pupils are placed in two ability sets while lower-band pupils are in three parallel ability groups. A similar arrangement exists for French. Upper-band pupils study German in seven week modules which rotate with a combined module for social studies and RE, resulting in a rather disjointed experience of all three subjects.

49. The slight differences that occur in the curriculum provision for the two bands in year 2 and 3 do not relate well to the tests given in Year 1, which are used largely as a measure of general ability to place pupils into one or other of the bands. The division of the year group into two equal cohorts maximises the chances of error in placement as differences in ability between the less able in the upper band and more able in the lower band are slight. In addition there is a gender imbalance between the two bands with the percentage of girls in the upper band higher than that of boys. This is most marked in Year 3 with girls almost twice as likely to be placed in the upper band as are boys.

50. In Years 4 and 5 all pupils study English, mathematics, physical education and personal development. This last subject consists of careers, health education and religious studies, each taken for the equivalent of one term. For the remainder of their time pupils study five subjects chosen from option lists. A careful process of pupils' choice, teachers' recommendations and negotiation between teachers and individual pupils ensures that pupils are guided onto suitable courses matched to their interest, ability and possible career choice. Care is taken to ensure that subjects chosen represent a sensible spread across the curriculum; all pupils must opt for at least one science subject. In four of the option lists one non-GCSE course is offered primarily for pupils for whom the school judges that a full range of GCSE courses would be too demanding.

51. While the choice of subjects is large and comprehensive the existing scheme is expensive in the number of teachers required. The school has attempted to ensure groups of a viable size: it has dropped home economics, electronics, and typing and word-processing as GCSE courses in Year 4 because of poor recruitment. However, small groups remain in textiles, home economics and "home and family" in Year 5 as well as in music in both Years 4 and 5.

52. The pattern of options for each pupil is generally well balanced. In the case of a small proprotion of pupils an imbalance is caused by the lack of a creative or practical subject. The school allows this imbalance if pupils can justify it on the grounds of their qualifications needed for their desired career.

53. While there are no official limitations access to ary part of the curriculum in Years 4 and 5, some subjects attract unbalanced proportions of boys or girls. Design and realisation, graphics, building studies and computer studies are dominated by boys while biology, textiles and child development are dominated by girls.

54. English literature is offered as an option but those who take it lose three of their four PE lessons. This is unsatisfactory.

55. At present pupils may take an integrated science course or one or more separate science courses in Biology, Physics or Chemistry all leading to GCSE certification. The school is considering offering a broad balanced science course for all pupils with the option of single or double GCSE certification. This would be more appropriate for pupils than the separate science courses offered at present.

56. While all pupils are required to study a minimum of one science subject there is no similar requirement for foreign languages. Only 29% of fifth year pupils take French or German although there has been an improvement in Year 4 where 44% do so.

57. The school is aware of many of these curricular problems and is discussing possible solutions. Staff working parties have discussed the provision of creative arts and technological experiences for pupils. Their work has led to a wider review of the curriculum although this initiative began only shortly before the inspection and firm decisions for change had not been made.

THE SCHOOL COMMUNITY

58. The personal and social development of pupils is central to the aims of the school. Form tutors and class teachers take their pastoral responsibilities seriously. They know their charges and show concern for them. The quality of care is good and pupils are generally well behaved. The school invests much time in its pastoral care system and half of the staff have been involved in INSET concerned with pastoral care. Many non-contact periods are devoted to pastoral care activities. However, the system is an expensive one. Tutors, heads of year, heads of upper and lower school, deputy heads and the headteacher are involved which, for a school of this size, is an over-elaborate structure. There is no clear demarcation of responsibilities, yet the system works well because the school is small, the quality of the relationships within it are good and the pupils are known to their teachers, particularly their tutors. Both pupils and teachers are confident that they know where to turn for help, but within that confidence different perceptions of responsibilities exist. A review of the pastoral care system might consider the relative roles of the heads of year, the heads of school and the deputy heads aiming to retain an effective level of care but at less cost in staff time.

59. Pupils follow a programme of pastoral activities in tutor group time. For example, the pupils' use of their time is a topic at the beginning of Year 4; guidance on the choice of options for Year 4 is provided in Year 3. Most tutors follow the pastoral programme organised by heads of year. This programme has not been coordinated with the personal development course in Years 4 and 5 and with elements of personal and social development taught in other lessons, for example in biology. The school also needs to consider how teaching and learning styles within the academic curriculum contribute to the pupils' personal and social development.

60. Pupils' attendance at school is satisfactory and only isolated examples exist of pupils having regular patterns of long absence. There is no fall-off in attendance in more senior years. Although it is not a school requirement, many teachers check the attendance of pupils for each lesson.

61. The formal system of rewards and punishments tends to be concerned more with problems than with positive guidance and development, but steps are being taken to redress the balance by establishing a merit system. About 25% of the fifth year pupils assist with the smooth running of the school as prefects, receiving minor privileges in return.

62. The school provides an extensive programme of extra-curricular activities before, during and after school. Sports and music form an important part. There is also a wide range of clubs and activities: a computer club, a CDT club, visits to art galleries and museums, an annual school production and travel to foreign countries, including Russia last year and Florida this year. These activities make a major contribution to the corporate life of the school.

63. Pupils are generally well behaved in lessons and around the school although the behaviour of some older and less able boys is unsatisfactory at times. When talking with adults pupils are well-mannered, courteous, polite and confident.

64. The school council is a notable feature of the life of the school. Representatives are elected by each tutor group and report back from the council. This provides opportunities for pupils to take responsibility and contributes to education for life in a democracy. There are good communications between the council and the headteacher to whom the leaders of the council report after each meeting. The council has been effective in obtaining changes, for example in the food offered by the school canteen and in the acquisition of safety railings in the school grounds. At the time of the inspection it was preparing to run a school disco.

65. The school is well supported by parents. Attendance at parents' evenings is good and there is an active parent-teacher association. The school welcomes visits by parents. More could be done to inform them about the work of the school but the recent introduction of a monthly newsletter to parents is a valuable initiative.

66. There are few links at present with the wider community other than nursery placements for pupils on the child development course and the limited work experience programme. However, pupils demonstrate social and community concern in their active charity fund-raising. It is notable that the school raises much more money for charity than it does for itself.

67. Careers education is included in the personal development course of Years 4 and 5 and in the tutorial programme. Its content is rather narrow, concentrating mainly on preparing pupils for choosing optional subjects for Year 4 and on occupations and educational opportunities available at 16+. The wider aims of careers education concerned with preparation for working life in general need to be considered. The Careers Service provides useful vocational guidance. All pupils in Year 5 are offered at least one interview with a careers officer and some have more than one. There is also work with groups of pupils to explain, for example, the help provided by the service. The service is represented at parents' evenings.

68. Few links with industry exist other than the programme of work experience which is provided primarily at the request of individual pupils. In the past academic year 23 Year 5 pupils had one week's work experience and 13 Year 4 pupils had two weeks as part of the "World of Work" course. This is an inadequate provision. The school needs to consider how more pupils may benefit from work experience and how, with appropriate planning, this may form the basis for further learning in the classroom.

CONCLUSIONS AND RECOMMENDATIONS

69. Pupils behave well in class and around the school and relationships between them and their teachers are good. The effective pastoral care system and a strong sense of community, to which a range of extra-curricular activites contributes, ensures that pupils are well assimilated into the school. The general atmosphere in lessons is cooperative and productive.

70. Nevertheless, the standards of teaching and learning vary in several respects. Pupils of average ability are generally well served; teachers expect them to work at a level commensurate with their capabilities. The more able and, to a greater or lesser extent, older pupils of all abilities could benefit from many more opportunities to plan and execute set tasks in their own way or to devise tasks for themselves. Too often they are epxected to follow routines or to receive information passively. For example, although pupils demonstrate that they are articulate and ready to engage in discussion, allowing pupils to talk through a problem by themselves is seldom used as a means of promoting involvement and understanding. Other benefits could arise from ensuring that pupils were called upon more often to use knowledge and skills they had already acquired.

71. The quality of teaching and learning is not consistent. There would be undoubted benefit in examining the instances of good practice, of which there are many, and considering what might be done to promote their adoption more widely in the school. The development of a school marking policy merits early attention.

72. The teaching staff are experienced and qualified to undertake the work for which they are responsible. It will be important to see that their in-service training meets not only their individual needs but also those of the school as it faces the introduction of the National Curriculum and associated assessments over the next few years.

73. The sound management structure and a committed staff suggest that the school should be well able to bring about the necessary improvements. For example, a review of the banding and options systems has already started. More important will be the school's ability to remain sensitive to its own performance by systematic self-appraisal; that, too, should be well within its capability.

cc P.U

NORTHERN IRELAND OFFICE
WHITEHALL
LONDON SW1A 2AZ

SECRETARY OF STATE
FOR
NORTHERN IRELAND

ABlm
RACG
29/6

The Rt Hon Kenneth Baker MP
Secretary of State for Education and Science
Elizabeth House
York Road
LONDON SE1 7PH

28 June 1989

Dear Ken

NATIONAL CURRICULUM: PROPOSALS FOR ENGLISH AND TECHNOLOGY

Thank you for sending me copies of the final ~~report~~ (in attached folder) of the National Curriculum English Working Group and that of the Design and Technology Working Group. These reports will provide a valuable point of reference when our respective Working Groups are charged with the task of determining programmes of study and attainment targets for schools in Northern Ireland.

I am copying this letter to the Prime Minister, Peter Walker, Malcolm Rifkind and to Sir Robin Butler

Yours

TK

TK/SOFS/5979

EDUCATION: Policy
P.21

CONFIDENTIAL

SEWCBE

10 DOWNING STREET

LONDON SW1A 2AA

From the Private Secretary

26 June 1989

Dear Stephen,

NATIONAL CURRICULUM: PROPOSALS FOR WELSH

The Prime Minister was grateful for your Secretary of State's minute of 19 June enclosing the final report of the National Curriculum Working Group on Welsh.

The Prime Minister has noted that the Working Group seems to have formed the impression that your Secretary of State will use his powers to exempt schools from teaching Welsh as a foundation subject in a minimal way. She feels that this departs from the spirit of the agreement reached in the policy discussions in November 1987. She would therefore be grateful if your Secretary of State, in welcoming the report of the Working Group, would emphasise the powers of exemption provided him by the 1988 Act and indicate that he will use them to enable those parents who would prefer their children to study other subjects to be able to do so.

I am copying this letter to Tom Jeffery (Department of Education and Science), David Crawley (Scottish Office), Stephen Leach (Northern Ireland Office) and Trevor Woolley (Cabinet Office).

Yours,

Paul

(PAUL GRAY)

Stephen Williams, Esq.
Welsh Office.

CONFIDENTIAL

Accept K1916
DE 2016

In the presence of Her Royal Highness The Princess Royal
and His Royal Highness The Duke of Kent,
to commemorate the 150th anniversary of public education,
Her Majesty's Government
in the United Kingdom of Great Britain and Northern Ireland
request the pleasure of the company of

The Prime Minister and Mr Denis Thatcher

at a Garden Party to be held in the gardens of
Buckingham Palace by gracious permission of Her Majesty The Queen
on Tuesday 25 July 1989 at 4 pm
Administered by the Department of Education and Science

R.S.V.P. to Mrs. S. Dingley, Room 16/3
Department of Education and Science,
Elizabeth House, York Road, London SE1 7PH
01-934 0515

Informal day dress

Education Policy
Pt. 21

CONFIDENTIAL

10 DOWNING STREET
LONDON SW1A 2AA

From the Private Secretary

26 June 1989

Dear Tom,

GM SCHOOLS: CARDINAL VAUGHAN SCHOOL AND CARDINAL HUME

The Prime Minister was grateful for your Secretary of State's further minute of 21 June and has noted the latest position and your Secretary of State's plans.

I am copying this letter to Michael Saunders (Attorney General's Office).

Yours,

Paul

(PAUL GRAY)

Tom Jeffery, Esq.,
Department of Education and Science.

CONFIDENTIAL

PRIME MINISTER 23 June 1989

NATIONAL CURRICULUM: WELSH

The Working Group on the teaching of the Welsh language for ages 5-16 has now produced its final report. It is a very lengthy document. In terms of style and approach it is similar to all other Working Group Reports.

It does however, raise one issue of some importance - and that is the extent to which Welsh as a second language should be optional or compulsory in all ssecondary schools in Wales.

Should Welsh as a second language be compulsory?

Some of the background to this issue is important.

In November 1987 Peter Walker sent you a possible policy statement which dealt with the National Curriculum in Wales. It proposed that Welsh should be a core subject in Welsh speaking schools and a foundation subject in non-Welsh speaking schools. This was followed by a meeting between yourself and Wyn Roberts, at which you expressed very great concern about these proposals, as it could be a considerable deterrent to people outside Wales who might consider moving there. It was at this point that Mr Roberts said how much importance he attached to the power granted to the Secretary of State to exempt schools' whose parents did not wish Welsh to be a foundation subject. — it was a Net Score that you reached an agreement with him. PRCG

The Working Party note that in announcing the establishment of the Working Group, the Minister of State said:

"Although the Secretary of State will have the power to make a specific order exempting a school from teaching Welsh, we shall use that power sensitively and sensibly. One of our aims is to ensure that every pupil in Wales has a basic understanding of Welsh." (17.5)

The report also records that when the Minister addressed them on 27th May 1988 he emphasised that:

"Although the Education Reform Bill contains an exemption power we expect to minimise its use. I hope that the Group will find the right levels of attainment and the right approaches to bring in as many pupils as possible." (17.5)

The Working Group, not surprisingly, concluded that this guidance led them to propose attainment targets and programmes of study for all pupils.

The Report also mentions (17.7) that there was widespread support for the proposals of its Interim Report, though it did note that:

"Some - principally from predominantly English speaking areas - have urged us to make Welsh, what they term "optional" - to be offered only in response to parental demand. Such a proposal runs counter to the policy framework within which we have been asked to work and would, in our view, be contrary to the spirit and philosophy of the National Curriculum."

They also note (17.8) that others who have expressed support for including Welsh in the curriculum, have expressed "grave misgivings" over timetabling difficulties which would result

in other important subjects being dropped, especially between the ages of 14-16. The Report however, argues against this, by observing that several schools have already successfully introduced Welsh into the curriculum, and that this is not a sufficient reason for exempting schools from the requirement of Welsh being a foundation subject.

Evaluation

- The Education Reform Act gives the Secretary of State powers to exempt schools from teaching Welsh as a foundation subject. (Education Reform Act 1988 Pt 1.3(4)(a)).

- Wyn Roberts has given the Working Group the clear impression that this will be used in a minimal way.

- When I minuted you on 26 November 1987 suggesting that the Secretary of State's proposals be accepted, I did so on the clear understanding that exemption would be granted to reflect parental choice, and in fact quoted the example of the Chairman of the Gwent LEA, who had already said that 75% of schools in that area could well opt-out.

- The Working Group are effectively proposing that Welsh should be compulsory in all primary and secondary schools in Wales, by making Welsh being a foundation subject in non-Welsh speaking schools..

- This result is quite different from what was agreed at your meeting with Wyn Roberts on 20 November 1987.

Conclusion

The case which you make is a powerful one. The proportion of the Welsh speaking population is declining. It is now strongest in the Cardiff area and parts of North Wales. Parents have the choice to educate their children in Welsh. It is equally important however especially in the 14-16 age range that parents and pupils have the choice to study subjects which in their judgement take priority over Welsh.

Recommendation

Request the Secretary of State, in welcoming the report of the Working Group, to emphasise the powers of exemption provided him by the 1988 Act which he will use to enable those parents who would prefer. Their children to study other subjects to be able to do so.

Brian Griffiths

BRIAN GRIFFITHS

PRIME MINISTER

NATIONAL CURRICULUM: WELSH

Peter Walker has now sent you the (very thick) report of the National Curriculum Working Group on Welsh, under cover of his minute at Flag A. He seeks your agreement to base his formal proposals, with one minor exception, on the Report's recommendations.

I do not think there is any need for you to plough through the detailed document. You will however want to look at Brian Griffiths' minute at Flag B. Brian does not quarrel with the way in which the report recommends that Welsh is taught. But he urges that the agreement you reached with Wyn Roberts in late 1987 on the extent to which Welsh is taught is strictly observed.

Brian suggests that Wyn Roberts has in his more recent comments underplayed the power in the legislation whereby Peter Walker can make a specific order exempting a school from teaching Welsh where this is the parental wish. This was the point to which you attached importance in the 1987 "deal". Brian recommends that you ask Peter Walker when he makes his announcement to emphasise the availability of this power and his willingness to use it.

Content for me to minute out as Brian suggests?

ff CG.

(PAUL GRAY)

23 June 1989

DA1ADM

R 22/6

SS PS/4156/0832

ELIZABETH HOUSE
YORK ROAD
LONDON SE1 7PH
01-934 9000

Dominic Morris Esq
Prime Minister's Office
10 Downing Street
LONDON
SW1A 2AA

22 JUN 1989

Dear Dominic

Andy Bearpark wrote to Tom Jeffery on 8 May enclosing a letter to the Prime Minister dated 3 May from Dr Dafydd Elis Thomas about LINGUA. I apologise for being unable to meet your deadline for a reply of 22 May. The delay was the result of the volume of work created by the intense Parliamentary interest in the LINGUA decision. A draft reply for the Prime Minister's signature is enclosed.

Yours sincerely

JOHN RATCLIFF
Assistant Private Secretary

the P M —

You wrote to me on 3 May expressing concern at media reports about the Government's attitude to the EC LINGUA programme. I am replying now in the light of the agreement reached by Community Education Ministers on 22 May on the scope of LINGUA. I do apologise for the delay in getting back to you.

As is often the case, the media reports were far from accurate. The UK Government did not 'withdraw' from LINGUA and unanimous agreement was reached in Brussels on what amounts to a substantial programme of Community support for the efforts of all the member states to develop the quality and range of language competence in the European workforce.

The Government's concern related to provisions bearing on school education in the proposals for LINGUA as originally put forward by the Commission. These provisions exceeded the scope of the Community's powers under the EEC Treaty. The Government does not believe that it is appropriate for the Community to legislate in relation to the school curriculum. Schools policy and expenditure are a matter for the individual member states, a position strongly supported by Germany. The LINGUA programme as agreed on 22 May is restricted to vocational training, where the Community has a proper role.

The agreement reached covers operation of LINGUA over a period of 5 years from January 1990.

I enclose a short note summarising the coverage of the programme. This shows, ~~I believe~~, that there will be plenty of scope for participation by institutions and businesses in Wales as elsewhere in the United Kingdom.

EC LINGUA PROGRAMME

BACKGROUND

The LINGUA programme is a European Community (EC) programme which aims to promote a quantitative and qualitative improvement in foreign language competence in order to develop communication skills within the Community. Foreign languages are defined as the 9 working languages of the EC, Irish and Luxembourgish.

Agreement on the terms of the Decision to establish the LINGUA programme was reached at the EC Education Council on May 22nd 1989.

It lays down a framework of guidelines for Member States and a series of measures to be implemented at Community level.

THE PROGRAMME

There are 5 lines of action.

1. Support for in-service training. Grants will be available to support the expansion and improvement of in-service training for foreign language teachers and teacher trainers, particularly by means of periods spent in a Member State where the language they teach is spoken.

2. Promotion of learning of foreign languages in universities and the exchange of foreign language students. Grants will be available to support the development of Inter-University Cooperation Programmes enabling students to spend part of their course in the country whose language they are studying. Grants will also be available to individual students studying abroad under these arrangements.

3. Support for the development of language training in firms. Will include aid: for work on diagnosis of the need for foreign languages in firms, particularly small and medium sized firms (SMEs); for development of teaching and open learning materials; for a system of exchanges for representatives of SMEs; and for work on the development of vocational language qualifications carried out jointly by at least 2 Member States.

4. Support for the development of educational exchanges for young people in professional, vocational and technical education. Will provide grants to develop and support exchanges lasting at least 14 days for young people, which are organised as part of their course.

5. Establishing a network of communication and technical support for LINGUA at Community level.

FUNDING

200 Million European Currency Units (ECUs) (about £130 million) over 5 years from 1 January 1990.

Secs EC(1R)
BL YC for SSPS urgent reply
→ MR S R C Jones

SSPS/4156/0832

10 DOWNING STREET
LONDON SW1A 2AA

From the Private Secretary

8 May 1989

Dear Tom

I attach a copy of a letter the Prime Minister has received from Dr. Dafydd Elis Thomas MP.

I should be grateful if you could provide a draft reply to this letter for the Prime Minister's signature, to reach me by Monday 22 May please.

Yours

Andy

(P.A. BEARPARK)

Tom Jeffery, Esq.,
Department of Education and Science.

HOUSE OF COMMONS
LONDON SW1A 0AA

3 5 89

The Rt Hon Margaret Thatcher
Prime Minister
10 Downing Street
LONDON

Dear Prime Minister

I note with concern media reports of your decision to withdraw the UK from the European Commission Lingua Programme. This Programme is widely supported by academic institutions, schools, and the business community in Wales, as a way of preparing for the Single European Market and the language skills will be required to compete effectively.

I would like an assurance from you that no decision will be taken unilaterally on this issue without full consultation and I would emphasise the importance of developing the social and cultural dimension of the Single European Market of which the Lingua Programme forms an integral part.

Yours sincerely

Dafydd Elis Thomas

DAFYDD ELIS THOMAS
M.P. for Meirionnydd Nant Conwy.

Dr. Dafydd E Thomas MP

2215

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cc MLB ✓

1. 23/5
2. 30/5
3) 6/6
4) 13/6
5) 20/6

10 DOWNING STREET
LONDON SW1A 2AA

From the Private Secretary

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(P.A. BEARPARK)

Tom Jeffery, Esq.,
Department of Education and Science.

HOUSE OF COMMONS
LONDON SW1A 0AA

3 5 89

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10 Downing Street
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Yours sincerely

Dafydd Elis Thomas

DAFYDD ELIS THOMAS
M.P. for Meirionnydd Nant Conwy.

FCS/89/131

SECRETARY OF STATE FOR EDUCATION AND SCIENCE

Lingua Programme

1. Thank you for your letter of 19 June about discussion of the LINGUA programme at COREPER this week.

2. I agree that we should oppose any attempt to move from the formula you agreed, making clear that the revised LINGUA programme represents a careful balance, which should not be undermined.

3. Copies of this minute go to the Prime Minister, the other members of OD(E), the Secretaries of State for Wales, Northern Ireland and Scotland, the Chief Secretary, Sir Robin Butler and Sir David Hannay.

(GEOFFREY HOWE)

Foreign and Commonwealth Office
21 June 1989

CONFIDENTIAL

Prime Minister
A further progress report.

PRIME MINISTER

GM SCHOOLS: CARDINAL VAUGHAN SCHOOL AND CARDINAL HUME

I minuted on 5 June to let you know of the difficulty I was having with Cardinal Hume over his refusal to appoint the foundation governors of the proposed Cardinal Vaughan GM School.

2. As I had expected, my meeting with the Cardinal, and subsequent meetings between his and my officials, have not moved matters further forward. I am making one final attempt: I have written to Cardinal Hume as attached, and will be aiming to see him in the next few days. If he still refuses, I see no alternative but action in the Courts.

3. My intention in this event is to encourage two or more of the many parents concerned to move quickly seek an order of mandamus against the Cardinal. I am told that there are parents who are ready to take action. That has attractions because it avoids the appearance of a direct confrontation between church and state. I will encourage the parents to suggest to the Court that I be served with notice of the proceedings; I would then be in a position to be represented by Counsel without being identified with either party.

4. There are, however, risks in this approach. First, the outcome will be less secure than if I institute proceedings directly, even if I am represented in Court. Secondly, it could take a good deal longer, particularly with the legal term finishing at the end of July. Time is running out. The Cardinal Vaughan GM proposal has to be submitted to me by 13

CONFIDENTIAL

September. If it is not, its validity will be open to legal challenge; and there will be some risk that the parents will be forced to start the whole process again. That would clearly be unacceptable

5. I therefore propose to monitor closely the parents action and to be ready to proceed against the Cardinal myself if it looks unlikely to succeed quickly. This is a test case. If it were to fail, then we could expect the Catholic Bishops to follow their leader's example and could, as I said in my earlier minute, wave goodbye to the prospects of establishing any significant number of Catholic GM Schools. I intend to make it clear to the Archbishop when I meet him that, if he still refuses to do what he admits is his statutory duty under the law of the land, then I am ready to seek an order of mandamus against him forthwith.

6. I am advised that action in the courts is almost certain to succeed. If the Cardinal still refused to do his duty, the Courts could remove him as Trustee and appoint a new Trustee who was willing to appoint the foundation governors, enabling the GM proposal to proceed.

7. I am sending a copy of this minute to Patrick Mayhew, and will keep each of you posted of developments.

KB

21 June 1989

DEPARTMENT OF EDUCATION AND SCIENCE

21-6-89

ELIZABETH HOUSE
YORK ROAD
LONDON SE1 7PH
01-934 9000

His Eminence Cardinal Hume
Archbiship of Westminster
Archbishop's House
Westminster
LONDON SW1P 1QJ

19 JUN 1989

Dear Archbishop,

CARDINAL VAUGHAN MEMORIAL SCHOOL

As we agreed when we met last week our officials have now had discussions to clarify certain points which arose in our discussion of the application for grant maintained status for Cardinal Vaughan School and the appointment of proposed foundation governors. We have looked particularly carefully at the suggestion made by your lawyers that I could decide the Section 13 proposal in respect of the school in advance of the application for grant-maintained status. I have clear advice confirmed by Counsel that this is not an option: I would be open to challenge in the courts for having taken a perverse decision since I would have disregarded a proposal for grant-maintained status which, following the parents ballot in March, the governing body of the school are under a duty to submit to me. We also considered the possibility that you might arrange a transfer of the Trusteeship of the school. While this must be a matter for you, I understand that your advisers take the view that the nature of the Trusteeship would make this very difficult.

Thus the position has not changed in substance since our meeting. You have acknowledged that you are under a statutory duty to appoint foundation governors to the Cardinal Vaughan school to enable the governing body to publish proposals for grant-maintained status. While I recognise the personal difficulty that you face in carrying out this requirement, I see no alternative but to ask you now to fulfill the statutory duty placed on you as trustee for Cardinal Vaughan School.

We agreed that we should meet again when the points we discussed had been clarified. I think that we should do so urgently and my office will be in touch with yours to arrange a suitable time.

Yours ever,

Kenneth Baker

EDUCATION : Policy A 21

PRIME MINISTER

NATIONAL CURRICULUM: PROPOSALS FOR WELSH

I attach the final report from the National Curriculum Working Group on Welsh, chaired by Professor Gwyn Thomas.

The Group was asked to recommend attainment targets and programmes of study appropriate for the whole range of linguistic circumstances in Wales. They have had to develop a structure appropriate for pupils receiving a Welsh medium education for whom Welsh is a core subject and who should be achieving the same standards as in English; and they have also needed to cover pupils in the most English-speaking areas whose contact with Welsh may be very limited.

The Group's report - though long and too verbose in parts - is a good and thorough job. It gives us a structure which should be widely accepted across Wales. What they recommend on the staging of implementation strikes a helpful balance between firm pressure for action and recognition of real constraints.

There is more work to be done to improve the provision of some of the statements of attainment - but that can be done in parallel with the consultation exercise.

I propose to base my formal proposals (draft enclosed) on the Report's recommendations, with one exception. We need a separate attainment target for handwriting for the first language Welsh pupils - as we have in English.

I am anxious to ensure that the Report and our proposal reach schools this term, along with those for English and Design and Technology. I should be grateful for your agreement as soon as possible that I should proceed to consultations on this basis.

We shall take careful account of the responses.

I am copying this letter to Kenneth Baker, Malcolm Rifkind, Tom King and to Sir Robin Butler.

19 June 1989

PW

Education

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Pt 21

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ELIZABETH HOUSE
YORK ROAD
LONDON SE1 7PH
01-934 9000

19 JUN 1989

The Rt Hon Sir Geoffrey Howe QC MP
Secretary of State for Foreign & Commonwealth Affairs
Foreign & Commonwealth Office
Downing Street
LONDON SW1

Dear Geoffrey,

EUROPEAN COMMUNITY: LINGUA PROGRAMME

This letter seeks agreement to the line our representative should take in COREPER on the legal basis for the adoption of the LINGUA programme following the judgments of the European Court in the Youth Training and ERASMUS cases (56/88 and 242/87).

Following my letter to you of 27 April the Education Council agreed the LINGUA programme on 22 May on the basis described in my letter to Norman Fowler of 31 May. The text is now being prepared for formal adoption and will, I understand, be considered by COREPER on 22 June.

It was agreed on 22 May that the legal basis for LINGUA should be Articles 128 and 235 of the Treaty, in response to the argument of the UK and others that Article 128 alone could not support an expenditure programme of this kind. That argument has now been rejected in the ECJ judgments referred to above, which were not delivered until 30 May.

The text as discussed on 22 May (EDUC 40) includes in the recitals a statement of the need for Article 235 in general terms only, referring to aspects of the Decision "relating to education and training policy which may be regarded as falling outside the establishment of general principles for implementing a common vocational training policy as provided for in Article 128".

The Council Legal Services - fearing action by the Commission to challenge the retention of Article 235 in the legal base in the light of these judgments - have proposed that the recital should be replaced by one which justifies the use of Article 235 by specific reference to the agreement that Member States should be

free to interpret the provision for the exchange of students below university level in professional, vocational or technical education in Action IV of the Decision to include all students over sixteen or above each Member State's own school-leaving age if that was lower.

To adopt this amended recital would concede that the LINGUA programme extended beyond vocational education and into the sphere of general school education, resolving against our interest the ambiguity in Action IV itself. The proposed new recital would, however, be likely to secure the retention of Article 235 in the legal base and hence the need for unanimity, and I judge would be unlikely to be challenged by the Commission because it concedes their interpretation of Action IV. I do not know if the proposed recital would be accepted by other Member States, and in particular the FRG.

I believe we should resist the proposed new recital because it concedes a point that we may need to return to as the detailed planning for the implementation of LINGUA develops.

I have considered whether there are any other alternatives to the retention of the original recital. Briefly, we could try either to identify other specific justifications for the retention of Article 235 which could be quoted in the recital, or we could agree to the abandonment of Article 235 and accept the LINGUA programme on the basis of Article 128 alone.

I do not find either of these possibilities attractive. Officials are agreed that the arguments for any other specific justification for the use of Article 235 are weak. Other Member States would be unlikely to agree. If they were agreed the Commission would be likely to challenge them and the judgment of the Court might declare either that Article 235 was unnecessary or that the real reason for retaining it was that set out in the recital proposed by the Council Legal Services. The Council would certainly use the argument of that recital in their defence.

To agree to the deletion of Article 235 from the legal base would concede that everything to be done under Action IV of the LINGUA programme can be done under Article 128. That might strengthen the case for our interpretation of the limited scope of Action IV, but would give the Commission considerable scope for exploiting any ambiguity. Such a concession would be unlikely to be acceptable to the FRG.

No solution is perfect, but on balance I propose that we should seek to retain the recital in general terms as it appears in EDUC 40. Other Member States will probably accept this, especially as any proposal to depart from it would require unanimity. The Commission might not challenge it because leaving the justification for Article 235 obscure allows both sides to use their own arguments in support of it. If the Commission should challenge it, however, we should not be at risk of any worse outcome than under any of the other options identified above.

If you agree, I should be grateful if you would ask Sir David Hannay to negotiate accordingly in COREPER.

I am copying this letter to the Prime Minister, the other members of OD(E), the Secretaries of State for Wales, Northern Ireland and Scotland, the Chief Secretary, Sir Robin Butler and Sir David Hannay.

EDUCATION : Policy Pt21

cc PM

ELIZABETH HOUSE
YORK ROAD
LONDON SE1 7PH
01-934 9000

The Rt Hon Lord Young of Graffham
Secretary of State for Trade and Industry
Department of Trade and Industry
1-19 Victoria Street
London SW1H OET

19 JUN 1989

Dear David.

Thank you for the very positive comments in your letter of 14 June about the Design and Technology Working Group Report. I am also grateful for your interest in supporting further work on economic and industrial understanding through the "link bodies" you fund.

I note your concern about the emphasis which teachers might give to the attainment targets. The programmes of study are of course equally statutory and will need to form the basis of teachers' schemes of work. I should, however, be happy for your officials to discuss with mine these issues and any others arising from the report. Unresolved issues can then be conveyed to the NCC and SEAC through the regular contacts my officials have with those bodies.

You also suggested that the NCC should issue early advice to teachers on the delivery of design and technology. As with all other subjects, the NCC will issue non-statutory guidance to schools when the final Orders have been approved following the consultations which will now take place. We shall also be considering with NCC what training materials are needed for teachers.

I am copying this to the Prime Minister and the other members of E(EP).

Yours
Kenneth

EDUCATION · POLICE PTL

cc PL

SCOTTISH OFFICE
WHITEHALL, LONDON SW1A 2AU

The Rt Hon Kenneth Baker MP
Department of Education & Science
Elizabeth House
York Road
LONDON
SE1 7PH

1. CDP - to see
2. NBPM.

PRCG 14/6

14 June 1989

Dear Ken,

EUROPEAN COMMUNITY: LINGUA PROGRAMME

Thank you for sending me a copy of your letter of ~~27~~ 11 April to Geoffrey Howe. I strongly support moves to increase linguistic competence but not at the cost of interference by the Commission in Scottish Curriculum matters, and I congratulate you on the outcome of the meeting with the Education Council on 22 May. We can now concentrate our efforts on obtaining the maximum benefit from the LINGUA programme in support of our respective policies on language teaching in schools which we know will serve to build-up the foreign language competence we need in the Single Market.

I am copying this letter to the Prime Minister, and the other members of OD(E), Peter Walker, Tom King, John Major and Sir Robin Butler.

Yours ever,

Malcolm

MALCOLM RIFKIND

HMP165L3.039

EDUCATION : General Policy PT21.

dti

the department for Enterprise

CC/14

The Rt. Hon. Lord Young of Graffham
Secretary of State for Trade and Industry

The Rt Hon Kenneth Baker MP
Secretary of State for Education
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MBM

PRCG
14/6

Direct line 215 5422
Our ref NP2ABB
Your ref
Date 14 June 1989

Dear Secretary of State, attached.

I was delighted to see the report of the Design and Technology Working Group. I particularly welcome the "Business and Economics" programme of study. I note, for instance, that pupils will be taught the importance of consumer choice, design and quality (level 5) and to prepare simple business plans (level 6). This is a significant step forward in our drive to get enterprising attitudes into schools.

However, I note that the proposed attainment targets are considerably less precise than the related programmes of study. I understand that the Working Group took this approach quite deliberately. But I am concerned that the report might as a result lose some of its impact, for teachers might focus on meeting the attainment targets rather than teaching the programmes of study. Unless you object, I shall ask my officials to raise these issues with the NCC, and in due course with SEAC.

I also note that Lady Parkes describes her group's approach to design and technology as challenging and new. I am certain that teachers will agree, and they will need early and high quality advice on how to deliver the subject, and in particular on how it links into TVEI and into school/employer links programmes. I understand that the NCC would like to put out advice on this quite quickly and I hope you will encourage them to do so. I appreciate that teachers are having to read a great deal of paper, but this is one area in which they will welcome rapid targeted advice - for it will avoid much re-inventing of wheels.

dti

the department for Enterprise

You might also like to know that my officials are talking to the NCC about the ways in which the DTI-funded "link bodies" and others might help teachers deliver economic and industrial understanding through the curriculum. They will of course keep your officials and those of Norman Fowler, Malcolm Rifkind and Peter Walker, in touch with their discussions.

I am copying this to the Prime Minister and to other members of E(EP).

Yours sincerely,

(Approved by the Secretary of State and signed in his absence)

the Enterprise initiative

E

PRIME MINISTER

P 03467

TEACHER TRAINING

E(EP)(89)1

DECISIONS

You asked Mr Baker to provide a paper on teacher training for this meeting so that you could consider whether the proposals for articled and licensed teachers should be pursued on a larger scale than Mr Baker envisages. The paper which he has circulated ranges widely. You may wish to concentrate discussion on the following issues:

i. licensed teachers. Mr Baker says he wants to see at least an early doubling of the present 1000 or so older unqualified people who annually enter teaching at present. From this September such people will enter via the licensed teacher scheme. You may wish to consider whether this is enough, and satisfy yourself that the new scheme will be promoted effectively despite the opposition of the teachers unions.

ii. articled teachers. Mr Baker proposes that the articled teacher scheme should start in September 1990 with pilot projects for 300-500 students a year initially. Such a scheme could be attractive to young graduates. You may wish to consider whether a limited beginning with only pilot projects is the best way forward. If you accept the proposal for pilots you might also suggest an objective of national coverage by, say, September 1992.

iii. teacher shortages. Mr Baker anticipates an overall shortage of 10-20,000 teachers by 1995. The Chancellor may suggest that a limited increase in the pupil: teacher ratio, in a period when pupil numbers are rising, should help to meet the shortfall. This is

an important issue, but no immediate decisions are required. You may wish to confirm that Mr Baker should clear his response to the Education Select Committee's forthcoming report on teacher shortages around E(EP) in good time before publication.

BACKGROUND

2. On 3 May Mr Baker minuted you seeking agreement to his proposals for introducing greater flexibility into teacher training, and in particular to his initiatives on licensed and articled teachers. You asked for amplification on a number of points: the target numbers for take-up of the licensed and articled teacher schemes, details of how the schemes would operate and be financed, and where responsibility would lie for making these schemes work. After further correspondence you pointed out that Mr Baker's proposals for licensed and articled teachers were still on a small scale, and asked for this discussion in E(EP).

ISSUES

Licensed Teachers

3. The purpose of the licensed teacher scheme is to enable teachers trained overseas, and those with substantial experience in other walks of life, to qualify as teachers without having to undergo a year's training and without having to undergo a bureaucratic and uncertain admission process. You may wish to start by asking Mr Baker how much interest there has been so far in the scheme. It is due to start formally in September. There are two particular issues you may wish to raise:

i. target. Mr Baker says he wants to see at least an early doubling of the present 1000 or so older unqualified people who annually enter teaching at present (paragraph 13). A doubling would therefore result in around 8% of the annual entry of some 27,000 coming in by the licensed

teacher scheme. You may wish to consider whether this is the right target for the present.

ii. promotion. Mr Baker's paper explains that the licensed teacher scheme is opposed by the teaching unions. Earlier correspondence made clear that Mr Baker regarded individual Local Education Authorities and Grant Maintained schools as having prime responsibility for making the scheme work. You may wish to ask Mr Baker whether he is satisfied that the scheme is being promoted as well as possible.

Articled Teachers

4. The articled teacher scheme is designed to attract new graduates to teaching who would be reluctant to go through the PGCE year, but might accept an immediate job in a school, during the first two years of which some training would be provided. Colleagues are likely to endorse Mr Baker's acceptance of a move towards more school-based training (paragraph 15). You may however wish to ask Mr Baker whether it is necessary to start the articled teacher scheme on a pilot basis only. His present plans envisage 300-500 places a year initially, which at most only 2% of the annual entry of 27,000. Such a scheme could be highly attractive to new graduates, attracted by a job in a school immediately rather than after a further year's training. You may therefore wish to ask Mr Baker:

i. whether the articled teacher scheme could begin nationwide immediately, without a pilot;

ii. whether, if a pilot did begin, he could set a target date now for introduction of a national scheme, perhaps a couple of years after September 1990.

Teacher Shortages

5. Mr Baker is not seeking any immediate decisions on other policies for recruiting more teachers, and for avoiding vacancies in shortage subjects. The Chancellor may however wish to put down a marker for future discussions that Mr Baker should not assume, in a future period of increasing pupil numbers, that the current lowest ever pupil:teacher ratio will necessarily be maintained. As pupil numbers have declined in recent years there has not been a commensurate reduction in teachers. When expansion occurs it might be reasonable to deal with some of this through larger classes.

6. The Education Select Committee plans to report on teacher shortages before the summer recess. Given the importance of the issues, you may wish to confirm that Mr Baker should clear his response through E(EP) in good time.

HANDLING

7. You may wish to ask the Secretary of State for Education and Science to introduce his paper. The Chancellor of the Exchequer or the Chief Secretary, Treasury may wish to comment first, followed by other Ministers.

R T J WILSON
Cabinet Office
13 June 1989

The Vice-Chancellor's Lodge, Grosvenor Road, Leeds LS6 2DZ

B

The Rt Hon Kenneth Baker MP
Secretary of State for
Education and Science

The Rt Hon Peter Walker MP
Secretary of State for Wales

NATIONAL CURRICULUM DESIGN AND TECHNOLOGY WORKING GROUP

I attach the final report of the National Curriculum Design and Technology Working Group which you appointed in April 1988 to advise on attainment targets and programmes of study for design and technology, and for information technology.

Our approach to design and technology is intended to be challenging and new. The aim of our proposals for design and technology is to prepare pupils to meet the needs of the 21st Century: to stimulate originality, enterprise, practical capability in designing and making and the adaptability needed to cope with a rapidly changing society.

The final report builds upon our interim report and the helpful and largely sympathetic responses to it. The development of design and technological capability remains the overall objective for the subject and the basis for assessing performance. Design and technological capability is, therefore, seen as a single profile component for reporting purposes.

We are concerned to ensure that design and technology builds upon the good practice in primary and secondary schools in a number of subject areas - art and design, business education, CDT, computer studies and home economics - and brings together into a coherent framework pupils' experience of design and technological activities.

This will have profound implications for the organisation and delivery of the subject and for the range of experience which all pupils - girls as well as boys - will have of design and technological activities.

The attainment targets - now 4 in number - are derived from design and technological processes and their holistic and iterative nature. The programmes of study specify the knowledge, skills and processes which pupils must be taught across a range of contexts to enable them to achieve the attainment targets.

The Report also recommends a single attainment target for information technology. Our aim is to guarantee thereby a minimum entitlement to IT experience for all pupils. We recognise that IT capability is something wider than this and therefore include aspects of IT in our recommendations for design and technology. It will also feature within other foundation subjects.

We have received considerable help from both individuals and groups in undertaking our task. In particular, the advisory groups we established gave us constructive advice and contributed considerably to the development of our thinking.

I wish to thank the members of the Working Group for their commitment and dedication. The Group has received constant support and advice from Her Majesty's Inspectorate and from Departmental officials, and I also extend my gratitude to them.

Lady Parkes

CONTENTS

CHAPTER 1

DESIGN AND TECHNOLOGY IN THE NATIONAL CURRICULUM

1.1 The inclusion of design and technology as a foundation subject in the National Curriculum is a recognition that the capability to investigate, design, make and appraise is as important as the acquisition of knowledge. Pupils' ability to respond effectively to new needs and opportunities by the design and making of original or better products will be important to them personally, but it will also be an essential condition for the future prosperity of our business and industry.

THE APPROACH TO DESIGN AND TECHNOLOGY AS A FOUNDATION SUBJECT

1.2 Our approach to design and technology was outlined in chapter 1 of our Interim Report in November 1988. It builds upon good practice in primary and secondary schools and involves:

- the development of design and technological capability "to operate effectively and creatively in the made world" as the overall objective for the subject;

- contexts for design and technological activity which are broad, balanced and relevant;

- within the attainment target framework, the coordination of design and technological activities currently undertaken in art and design, business studies, CDT, home economics and IT;

- the use of knowledge, skills and understanding drawn from the core subjects of mathematics, science and English;

- attainment targets which reflect the holistic nature of design and technology;

- the description in programmes of study of a core of knowledge, skills and values as resources to be used in design and technological activity.

1.3 Those aspects of IT capability concerned with designing, implementing and appraising IT systems, including the use of IT in control, are incorporated within general design and technological capability. Other aspects of IT capability are addressed separately in Chapter 3.

1.4 The essential elements of our approach to design and technology were the subject of overwhelmingly supportive comment from the many organisations and individuals who responded to the Interim Report. Our subsequent work has confirmed that the approach is compatible with the construction of attainment targets and programmes of study to help teachers raise standards in this area of pupils' education.

1.5 In our work on attainment targets and programmes of study we have aimed to ensure that they provide the means by which pupils develop the ability:

- to intervene purposefully to bring about and control change;

- to speculate on possibilities for modified or new artefacts, systems and environments;

- to model what is required in the mind, symbolically, graphically and in 3-dimensional forms;

- to plan effective ways of proceeding and to organise appropriate resources;

- to achieve outcomes of quality which have been well appraised at each stage of their development;

- to appraise artefacts, systems and environments created by others;

- to understand the significance of design and technology to the economy and the quality of life.

1.6 We have been particularly concerned to formulate a curriculum which meets the requirements of the 21st Century. It must contribute to pupils' economic and careers awareness, but it must avoid narrow vocationalism. It must stimulate originality, encourage enterprise and emphasise quality. It also needs to help pupils to develop a flexible approach to the problems and opportunities they will face in a rapidly changing society.

1.7 It is for these reasons that pupils' design and technological activities should be undertaken in a suitably broad and balanced range of contexts, covering home, school, recreation, community, business and industry. The activities should be carefully chosen and linked to extend their capability progressively and enhance their confidence in it. Work in a range of contexts provides a balanced experience of the use of different resources of knowledge and skills, and of the appraisal of a variety of constraints on design and technological activity. It can also help to engage pupils' interest and sustain their motivation for learning and ensures that the full range of design and technological activity is accessible to all girls and boys.

1.8 Our Terms of Reference described design and technology as "an activity which goes 'across the curriculum', drawing on and linking in with a wide range of subjects". In the letter conveying his response to the Interim Report, the Secretary of State emphasised the importance of "a framework within which schools will be able to co-ordinate the range of design and technological activity that is currently undertaken within separate subject specialisms, particularly CDT". Our attainment targets and programmes of study have been constructed to fulfil this requirement. They are intended to assist and encourage the coordination of the

knowledge, skills and values necessary for design and technological activities and to be found at present in art and design, business studies, CDT, home economics and information technology. Teachers of these subjects in secondary schools will need to collaborate in identifying the aspects of the programmes of study which they can cover and in organising its delivery and the assessment of pupils. There may be many ways in which this collaboration is realised but unless the teacher expertise is brought together, pupils are unlikely to achieve the goals we outline in 1.5 above.

1.9 We are aware that some secondary schools are already promoting such collaboration. We consider that there would be benefit in training which helps teachers to become familiar with the different emphases which are possible within design and technology. Such training would help teachers to recognise the contribution which could be made by colleagues with different expertise. It would also help to develop ways of managing, organising and planning their work together so that their teaching covers the required curriculum and ensures that pupils' progress is properly monitored and assessed. Much of this training could take place "on the job". Many teachers are already experienced in aspects of the design and technology curriculum and could pass on that experience in the course of day to day work with other teachers. Those responsible in schools for the organisation and the deployment of resources will also need to be aware of the requirements of the subject. In the primary school teachers are used to the type of practical activity undertaken in design and technology but need training to help them to develop their design and technological knowledge and understanding.

RELATIONSHIP WITH CORE AND OTHER FOUNDATION SUBJECTS

1.10 Design and technology has a special relationship with science and mathematics. Although its aims are different from those of science and mathematics, it is intimately associated with them, drawing upon their knowledge and skills and, in turn, contributing in ways which stimulate and assist further advances in them. Scientific knowledge helps us to estimate the behaviour of artefacts, systems and environments before they have been made; it suggests new design and technological possibilities; and it defines some of the constraints under which all design and technological activity is obliged to take place.

1.11 This special relationship needs to be fostered in the school curriculum. Accordingly, we have included specific references to relevant attainment targets in science and mathematics throughout our programmes of study so that schools can ensure that the necessary links are made to the attainment targets and programmes of study in these core subjects.

1.12 In the same way, because communication skills of diverse kinds are essential to good quality design and technology, we have made reference to the relevant attainment targets and programmes of study for English, as far as these are at present available.

1.13 There will also be occasions when pupils will undertake design and technological activity which draws on the specialist knowledge and skills of other foundation subjects, particularly history, geography and art. Further cross-referencing to attainment targets and programmes of study for these subjects will be necessary when they become available.

1.14 15,000 copies of the Interim Report were distributed, mostly in response to direct requests. Many of the written responses we received were impressively detailed and clearly the result of most thorough appraisals. In addition, a number of organisations and individuals gave oral evidence. As with the written comments, this was invariably constructive. We are extremely grateful to all those involved, both for the time they gave to reviewing the Interim Report and for the valuable suggestions offered. We have considered these carefully and have benefited from them in various ways in our subsequent work.

1.15 As indicated in 1.4 above, there was very strong support for our broad approach and for the proposal that there should be a single profile component for design and technology. A number of refinements to the attainment targets were suggested and, as we explain in chapter 2, our subsequent work on statements of attainment has led us to make some adjustments to the formulations given in the Interim Report. The principal change is that we have reorganised our original 5 attainment targets for design and technology into a new grouping of 4. Additionally, we recommend a single attainment target for information technology. Because our extracts from the programmes of study for design and technology were clearly provisional, few respondents commented on these at length, although some endorsed strongly the Secretary of State's stress on the need to include illustrative projects and tasks in our final report. We suggest in the Annex ways in which practical activities might be related to our attainment targets and programmes of study.

1.16 The emphasis that we put on the need for pupils' design and technological activity to take place in a broad and balanced range of contexts was widely supported. We were provided with diverse examples drawn from good practice and we valued especially comments on the level of

sophistication at which pupils might be expected to work at different stages.

1.17 Some respondents offered us alternative ways of categorising the knowledge and skills needed as resources for design and technological activity and we have given careful consideration to these. We recognise that a variety of classifications is possible, many of them equally valid, but all with their own particular advantages and drawbacks. We concluded that there were no compelling reasons for retaining the broader categories of knowledge and skills within which we described specific areas of knowledge in our Interim Report. However, we were concerned to ensure that the material was organised in a way which was helpful to teachers in constructing schemes of work and checking pupil progress. We have therefore retained the detailed content headings similar to those used in the Interim Report.

1.18 Other respondents commented on the need to ensure that the benefits to pupils of developing craftsmanship were retained in the design and technology curriculum. We recognise that it can be rewarding to work with materials through the interaction of hand and eye until the activity is effortless and the result perfect. We do not regard this perfection, however, as something to be aimed at as the sole outcome of a task. There is insufficient time in the curriculum to achieve this given our wish that pupils develop a broad capability using a range of skills and knowledge in a variety of contexts. Rather, we believe that aspects of craftsmanship such as the need for quality, accuracy and sympathy with the material should be developed at every stage of design and technological activity.

DESIGN IN ALL ITS ASPECTS

1.19 Our Terms of Reference make clear that although design is intimately related to technology, it also draws upon and contributes to other areas of the curriculum. In his response to the Interim Report the Secretary of State asked

us to consider how far our recommendations encompassed all aspect of design. It is this task we now address.

1.20 The activities of design and of technology overlap considerably. As we said in the Interim Report, "most, though not all, design activities will generally include technology and most technology activities will include design". However, we believe that the core of knowledge and skills as encompassed by our programme of study, taken alongside the four attainment targets we detail, cover the significant aspects of design.

1.21 That is not to say that the knowledge, skills, values and processes of designing cannot be used and developed in other subjects. For example, in environmental design pupils will rarely be involved in creating a totally new environment, but will need to appraise what already exists, explore people's needs and devise ways of organising and achieving change. In pursuing their ideas, they will develop their sense of historical and cultural continuity and a recognition that the new has to grow out of the old. There are clear opportunities here for work in history, but also for other subjects such as geography, to build on and develop these ideas.

1.22 Another example is in the area of aesthetics. In design and technology the fluency of pupils in the design 'language' of form, pattern, colour, texture, shape and spatial relationships is of crucial importance. Their command of this field and judgement of how to apply such considerations could clearly be developed further in art.

1.23 These examples illustrate the ways in which skills and knowledge of other subjects can enrich the development of design and technological capability in specific contexts. There are many other instances could be cited. As was noted earlier, we have incorporated the essential elements of designing in our attainment targets and programmes of study. Particular knowledge and skills in other subjects can on occasion enhance these, although they will have

educationally valid purposes in their own right within those subjects. The appropriate links can be made explicit, as we suggest in paragraphs 1.11 - 1.13 above, by cross-referencing to appropriate points in their attainment targets and programmes of study.

THE CONTRIBUTION OF DESIGN AND TECHNOLOGY TO CROSS-CURRICULAR ISSUES AND THEMES

1.24 Our approach to the teaching and learning of design and technology provides many opportunities for contributions to be made to pupils' understanding of a number of important cross-curricular issues and themes. In his response to our Interim Report, the Secretary of State mentioned in particular economic and career awareness and business understanding, while our terms of reference refer also to environmental awareness and to health and safety education.

1.25 In considering economic and careers awareness and business understanding we have been helped by a substantial review of work related activities in primary and secondary schools. It is clear that there is much under this broad heading that has been developed by teachers in recent years, often with great success. The range of activity is extensive, including industrial visits, work experience, work practice, work observation, and work-based and work-inspired projects, including mini-enterprises. Furthermore, each category covers a wide variety of activities. This state of affairs is impressive in many respects, but it is also a matter for concern because of fragmentation and lack of coherence in developments. We believe that design and technology offers a framework for a more systematic and directed approach to much work in this area which will enable this resource to be used more effectively and efficiently.

1.26 We consider, however, that strong permanent links are needed between schools and industry for the full potential of work-related activities to be realised at the least cost and with the greatest benefit to both parties. Such links would help to ensure that industry understands clearly the

curriculum purposes for which pupils are undertaking work-related activity. This greater understanding should enable employers to offer experience and activities which are appropriate to these purposes and which involve some of the real needs and opportunities with which they are faced.

1.27 The requirement for all pupils to experience design and technological activity in a broad range of contexts, including business and industry, will ensure that they will have first hand experience not only of the needs and opportunities arising in these situations, but also of the range of constraints which influence judgements about what to do and how to go about their tasks. Considerations such as client and consumer satisfaction, the importance of quality, added value, business structures, serviceability of products, market size, environmental impact, finance and deadlines can all arise naturally when design and technological activity is related to business and industrial contexts and pupils thus begin to appreciate the challenges of a career in this field. At the same time work-related activities can foster and demonstrate the value of personal qualities such as the ability to work constructively with others, a spirit of enterprise, (taking initiatives and risks, seeing opportunities, identifying needs) self-discipline, persistence in the face of difficulties and a sense of social responsibility. Some of our statements of attainment will, to some extent, require pupils to demonstrate such personal qualities. Our programmes of study also indicate activities which will promote these qualities.

1.28 An appreciation of the knowledge and skills which adults have found important and necessary in their work is a further outcome which can contribute to careers education and guidance. In our review of good practice we have come across impressive examples of design and technological activity by pupils of all ages which has had its origins in a work-related experience. In some instances the business or industrial organisation involved has benefited materially from pupils' work. While the links with industry and

commerce make very real demands upon a school, not least in establishing good working relations and ensuring adequate preparation and follow up of visits and exchanges, the rewards in terms of pupils' economic and industrial understanding can be considerable. In particular, such links bring into sharper focus the relevance of the skills and knowledge they are covering in their design and technology curriculum, such as solving problems within constraints, resolving conflicting requirements, taking decisions on the basis of insufficient evidence, and the need to plan activities in relation to the flow of resources, including finance.

1.29 Our Supplementary Guidance identifies environmental awareness as a theme to which design and technology might contribute. Again we believe there are rich opportunities, starting with direct experience of environments in infant school work, through activities such as designing and making environments for living things, to more complex work, for example the modelling of local built environments and the critical appraisal of these. The school environment itself is a readily available starting point. This strand of activity is central to the attainment targets and programmes of study we recommend and we do no more than hint at possibilities here. More generally, however, appraisal of the outcomes of design and technological activity - whether artefacts, systems or environments - and of their effects on society and individuals will include consideration of environmental impacts. This can contribute to pupils' understanding of how they relate to other living things and the world around them and to pupils' awareness of their own responsibilities towards maintaining the quality of the environment.

1.30 Design and technological activity must require pupils and teachers to have regard to the health and safety of those involved. Practical work by pupils which requires the use of tools of various kinds cannot be undertaken without knowledge of safe practices. Visits to industrial and other sites must be conducted according to safe procedures and

with understanding of possible hazards and how to avoid them. Considerations of health are prominent in a number of contexts for design and technological activity, notably when the work involves food materials and when ergonomic factors are involved. In constructing statements of attainment and programmes of study for design and technology we have had health and safety considerations in mind throughout and make specific reference to them at various points.

WELSH AS A MEDIUM OF INSTRUCTION

1.31 Although English is the only medium of instruction in the majority of Welsh schools, design and technology is taught in Welsh in a number of schools. Good oral and written communication is an important aspect of design and technological capability. Where Welsh is the medium of instruction, pupils will have the opportunity through design and technology to develop and confirm further their use of the language. Some resource material in Welsh dealing with aspects of design and technology is already available: if revised in the light of the approach to the subject we set out here this will prove most useful. We hope that in addition new material will be produced to support the attainment targets and programmes of study that are proposed and appropriate training given on their use.

EQUAL OPPORTUNITIES

Pupils with Special Needs

1.32 About one sixth of the general population of pupils in ordinary schools has special educational needs of one kind or another, but for various reasons do not have statements of special educational needs under the 1981 Education Act. The range of learning difficulties, behavioural problems and physical and sensory disabilities is considerable. We have given much thought to the case of such pupils and the possibility that they might be exempted from some of the requirements of the attainment targets and programmes of study in design and technology or that these attainment

targets and programmes of study might need some modification in order to be applicable to pupils in this category.

1.33 Our general position on this matter is quite clear. Experience of design and technological activity is an entitlement of all children, essential to enable them to achieve their full development as individuals and members of society. Furthermore, as we emphasised in the Interim Report, the activity is integrative and holistic, so that it does not make sense to think of components which can be isolated for blanket disapplication in the case of specific groups of pupils. Our goal is maximum participation in the design and technology attainment targets and programmes of study by all pupils, including those with special educational needs.

1.34 With this goal in mind we have drafted our attainment targets and programmes of study so as to avoid the need for general disapplication. We also set out here a number of broad measures which could be adopted to facilitate access and participation in the case of SEN pupils.

1.35 First, the range of design and technological activities should be broad enough to allow individual pupils with particular disabilities and difficulties to participate even though some of the activities may be outside the scope of those which pupils would normally undertake.

1.36 Second, extra help will be needed to sustain the efforts of SEN pupils and support them in their activities up to the point of assessment. Third, whilst the broad curriculum objective is the same for all pupils, there will be individual routes to success. In the case of some disabilities, technological aids of various kinds can play an important part in enabling pupils to participate and achieve. We are supported in this view by evidence of various kinds, not least from HMI and from other reports on special education within TVEI. The role of high technology equipment and computers in particular has had a liberating effect on some pupils with special educational needs by

providing an effective means of communication formerly not available to them.

1.37 Two aspects of design and technological activity pose particular problems. The first is 'communication', both oral and written, and non-verbal in the form of drawings and sketches. Such communication is essential for telling others about intentions, progress and problems, as well as for clarifying and reconstructing ideas. The second is 'making', particularly where manual dexterity and safety considerations are important.

1.38 In the case of 'communication' it will be necessary to indicate that in the case of pupils with physical or sensory difficulties that make the specified mode of communication impossible, their best means of communication would be an acceptable alternative to that stated and this should be interpreted to include the use of technological aids (eg drawing and modelling using computer software).

1.39 The case of 'making' is more difficult. Where pupils have such a degree of physical, sensory or behavioural difficulty that the activities in the attainment targets and programmes of study are unattainable or pose a threat to the pupil or those around him or her, then exemption is the only option. Such pupils could and should, nevertheless, participate in 'making' activities with help from their teachers and peers, and using technological aids as appropriate. That is to say, they should at least experience something of the activity in a controlled situation, even if they cannot achieve all the statements of attainment.

1.40 Some modification of assessment arrangements may be necessary in the case of some pupils with special educational needs. We comment on this in Chapter 4 where our main discussion of assessment issues arises.

Gender

1.41 Our Supplementary Guidance enjoins us "to bear in mind that the curriculum should provide equal opportunities for boys and girls; and to consider, in this context, the expectations and attitudes of girls to design and technology".

1.42 Throughout our work we have emphasised that design and technology encompasses activities of equal relevance to girls and boys and it is essential that they have experience in working in a balanced range of contexts. It will be important for teachers to guide pupils in their choice of tasks towards contexts and activities which do not reinforce stereotypes and which extend their capabilities and range of interests beyond conventional horizons. It will not be possible for pupils to satisfy the requirements of our attainment targets and programmes of study by working in a narrow vein of activities, eg boys working on mechanical and constructional tasks while girls concentrate on catering and textile related activities. The practice in primary schools of boys and girls working together in a range of activities has much to commend it at all key stages, provided that the roles adopted do not inhibit the full involvement of each pupil.

1.43 We recognise that provision of experiences in a broad range of contexts to both boys and girls may pose problems in single sex schools where there may be a shortage of appropriately trained teachers, equipment or accommodation, although co-educational schools may face these problems also. We are convinced, however, that the difficulty can be resolved over a period of time, mainly by careful modification and redeployment of existing resources. In recent years many girls' schools have successfully adapted premises and trained their staff to allow pupils to be taught subjects traditionally associated with boys' education. In others, however, much still remains to be done, especially in relation to design and technology. The comparable broadening of the curriculum in boys' schools has

unfortunately all too often failed to be accorded a sufficiently high priority and our recommended attainment targets and programmes of study will necessitate changes here. In-service training, adaptation of accommodation and some additional material resources will sometimes be required, but not on a scale which suggests the need to modify or defer the recommendations of our report.

Ethnic Minorities

1.44 Cultural diversity has always been a feature of British life, and with increased migration in the post-war period, there are positive advantages to be drawn from the different traditions represented in society. In schools, the different cultural and linguistic backgrounds of pupils are now becoming valued properly as a means of developing a richer learning environment for all.

1.45 However, the teaching of design and technology give rise to problems which will require perception and sensitivity from teachers. Design and technology has its technical language, aspects of which may have no counterparts in the mother tongues of some young children in schools. Children from different ethnic backgrounds may bring to design and technological activities solutions which reflect different beliefs and practices, especially when food materials and environmental designs are involved. Indeed, the meaning and interpretation of design can vary in significant ways from culture to culture.

1.46 It is important that teachers take a positive approach to a mixed range of cultural backgrounds in their pupils, rather than an approach which concentrates on the problems that some pupils may have in coping with, for example, the language of design and technology. The variety of cultural backgrounds of pupils can broaden the insight they all have into the range of appropriate, alternative solutions to perceived problems. There are rich opportunities here to demonstrate that no one culture has a monopoly of achievements in design and technology. Appreciations of

this kind could both contribute to better international understanding and yield direct economic benefits in later life. It is equally important that schools where there are few or no ethnic minority pupils ensure that their pupils understand the cultural diversity of modern society and are aware of the diversity existing in areas in which they may later live or work. Design and technology, like other subjects in the curriculum, has an important part to play in preparing pupils for life in a multi-cultural society.

CONCLUSION

1.47 The inclusion of design and technology as a foundation subject in the national curriculum is a considerable innovation and challenge. It occurs at a time when many countries throughout the world are beginning to acknowledge the educational potential of design and technology, not least in preparing pupils to understand and deal with the complex problems they are likely to face in their personal and working lives in the years ahead. Many of these problems have technological origins; equally, the means of solving them, of operating effectively in fields where there is not one right answer, where judgement as much as technique is the hallmark of successful practitioners, depends upon design and technological capability.

1.48 Recent developments have placed primary and secondary schools in England and Wales at the forefront of activity in the teaching, learning and assessment of design and technology. The approach we have set out is intended to carry forward the impressive work that has already taken place and to maintain our position of pre-eminence.

CHAPTER 2

Profile Components, Attainment Targets and Programmes of Study for Design and Technology

INTRODUCTION

2.1 In Chapter 2 of our Interim Report we described how we were approaching the task of recommending profile components, attainment targets and programmes of study for design and technology. Our broad strategy was to aim for a scheme which was coherent and rigorous, enhanced teachers' confidence and raised standards. We have noted that, while there is unevenness, much current practice will form an excellent basis upon which to build strategies for implementation.

Profile Components

2.2 Our consideration of how attainments in design and technology might most effectively be reported to parents and others is influenced by our view of the integrative nature of design and technological activity. The various processes involved, such as imaging, modelling, planning, making and appraising are not undertaken in sequential isolation, but interact and feed into each other continuously. Accordingly, we recommend the use of a single profile component called design and technological capability, which reflects the holistic activity in which pupils have engaged.

Attainment Targets

2.3 In our Interim Report we set out a distinctive core of knowledge essential for all design and technological activity. The role of knowledge is that of a resource to be used. In combination with skills, value judgements and personal qualities, it is a contributor to the development of capability. It is this outcome, which pupils are

able to achieve and demonstrate in design and technology, that provides the focus for our attainment targets.

2.4 The four attainment targets which we now recommend define a series of activities which, at appropriate levels of sophistication, will be undertaken by all pupils engaging in design and technological work. These activities are not intended to represent separable stages in a single linear process. They feed both forward and back into each other and pupils' work towards one target will often relate to, and enhance performance on, others. However, each attainment target describes activities which teachers will readily recognise as ones in which their pupils engage during their design and technology education. Furthermore, information on pupils' performance under AT headings will, we believe, help teachers to diagnose where help is needed and to plan more effectively for progression.

2.5 At this point we summarise the four attainment targets and their relation to the single profile component.

Profile Component: Design and Technological capability

AT1 Identifying needs and opportunities	AT2 Generating a design proposal	AT3 Planning and making	AT4 Appraising
Through exploration and investigation of a range of contexts (home; school; recreation; community; business and industry) pupils should be able to identify and state clearly needs and opportunities for design and technological activities.	Pupils should be able to produce a realistic, appropriate and achievable design by generating, exploring and developing design and technological ideas and by refining and detailing the design proposal they have chosen.	Working to a plan derived from their previously developed design, pupils should be able to identify, manage and use appropriate resources, including both knowledge and processes, in order to make an artefact, system or environment.	Pupils should be able to develop, communicate and act construc-tively upon an appraisal of the processes, outcomes and effects of their own design and tech-nological activity as well as of the outcomes and effects of the design and tech-nological activity of others, including those from other times and cultures.

Those familiar with our Interim Report will note that the number of attainment targets has been reduced from five to four. The original AT3, which was concerned with developing a chosen design by refining and adding detail and producing a plan for making, dealt with two different kinds of activity - developing and planning. In the course of our detailed work on writing statements of attainment at the ten levels specified in the TGAT report, it became apparent that the first of these activities was easily and more properly assimilated in the

previous AT2. Likewise, the second, planning for making, was appropriately incorporated in the previous AT4. The integrity of activities within each of the new AT2 and AT3 was enhanced by this change and, accordingly, our scheme now involves four attainment targets, instead of five.

Statements of attainment for the levels of achievement 1 to 10

2.6 We amplify each of our targets by providing detailed statements of attainment, linked to ten levels of achievement. In undertaking our work we have borne in mind the broad spread of attainment in pupils of the same age. We have also taken note of current good practice.

2.7 Specifying levels of attainment is far from being a simple matter of expanding knowledge and skills incrementally. In some instances, levels are increased by extending the range of performance, such as working with a broader range of resources or working in unfamiliar contexts. In other instances, progression is the result of a more sophisticated use of familiar resources or a deeper exploration of a familiar context. Progression also involves an increasing interplay of knowledge and skills, value judgements and personal qualities.

2.8 Another feature of progression is the ability to reflect upon practice and from this make explicit the concepts, procedures and strategies involved so that these can be carried over and applied consciously to new design and technological situations.

2.9 Our broad strategy, then, in writing statements of attainment at the ten levels has been to identify possible strands of progression within the target statement and to develop these across the levels by a combination of measures. At times, a simple increment would suffice; at a later stage, strands needed to be interwoven to capture the increased complexity of pupil response appropriate at that level; and later still, there is the need for pupils to reflect critically upon their practice and draw conclusions about how to undertake design and technological tasks in the future.

Programmes of Study

2.10 Programmes of study describe the means by which pupils are able to achieve the ends defined by the attainment targets. They do not prescribe how design and technology is to be taught, but specify the matters, skills and processes which pupils must learn if they are to achieve the outcomes described in the statements of attainment. Within the framework laid down by programmes of study, it remains for teachers to plan appropriate schemes of work in the light of their particular circumstances and knowledge of their pupils.

2.11 Programmes of study for design and technology include reference to

- knowledge which serves as a resource for pupils' design and technological activity;

- skills which pupils will need to develop;

- contexts in which design and technological activities are to take place;

- value considerations associated with design and technological activities;

- activities through which design and technological capability should be developed.

2.12 We provide a separate programme of study for each of the 10 levels of attainment ie 10 programmes in all. Each programme relates to all four attainment targets so that, for example, the programme of study for level 5 specifies the matters, skills and processes which must be taught to pupils in order for them to achieve level 5 across all four attainment targets for design and technology.

2.13. The programme of study is written in two parts. The first describes the nature of the activities which enable design and technological capability to be developed and the second states, under a number of sub-headings, what should be taught . Programmes of study are defined as "the matters, skills and process which are required to

be taught .... during each key stage." For this reason we have used the phrase, "Pupils should be taught that ..." throughout the programmes of study. This phrase is not meant to imply that the material should be covered in a formal didactic way.

2.14 We emphasise again that it is the integration of knowledge, skills and values through activities which leads to design and technological capability. Although we identify separate categories of knowledge and skills, these should not be taught in isolation, but incorporated as resources for design and technological activities. The purpose of categorising under sub-headings is to assist teachers to plan schemes of work in a systematic way and to identify and gauge progression.

2.15 At various points in the programmes of study we refer to attainment targets and programmes of study from other subjects, notably science and mathematics, but also English. Knowledge and skills from these subjects can contribute significantly to the achievement of design and technological capability and as statutory orders for the foundation subjects become available further additions may be necessary. Within other subjects, however, the knowledge and skills have the function of advancing understanding and mastery of those particular subjects, and will be located at levels judged appropriate to this end. Their function in relation to design and technology is different, being to service the development of design and technological capability through their application and use in activities. They may therefore be associated in design and technology at levels different from those in other subjects and a pupil's first experience of, for example, a scientific concept or a mathematical relationship may come through practical experience in a design and technological activity. Subsequent work in other subjects will extend and re-inforce this understanding so that a stronger foundation of resources for design and technological activity is progressively laid.

2.16 The programmes of study are cumulative, in the sense that a higher level programme assumes possession by pupils of the matters, skills and processes in lower level programmes. Where specific aspects of a lower level programme are repeated in similar form in a higher level programme, greater depth of treatment and of understanding is expected.

2.17 We place much importance on pupils' design and technological activity being undertaken in a variety of contexts and exemplify what we have in mind here by reference to home, school, recreation, community, business and industry contexts. Of course, these are not necessarily mutually exclusive. It is from such contexts that design and technological activity can be initiated by the identification of needs and opportunities. Pupils begin by working in familiar contexts and progress to those which are less familiar. Progression may also be achieved by a more detailed and informed investigation of familiar contexts.

2.18. We expect pupils' achievements in design and technology at each of the key stages to fall within the following ranges:

key stage 1	Levels 1 to 3.
key stage 2	Levels 2 to 5.
key stage 3	Levels 3 to 7.
key stage 4	Levels 4 to 10.

and we suggest that these ranges are specified in the statutory Order.

KEY STAGE 4

2.19 The attainment targets and programmes of study we recommend describe a curriculum which would be pursued by all pupils between the ages of 5 and 16, assuming in line with our terms of reference that on average 2-4 periods of a 40 period week are available in years 7 to 9 (the first three years of secondary school) and 2 periods would be available in years 10 and 11. The Secretary of State has already announced the Government's intention to introduce the attainment targets and programmes of study for the third key stage in September 1990, but no decision has yet been taken on key stage 4. We do not think it would be appropriate to require pupils to pursue the attainment targets and programmes of study for key stage 4 without any or with only limited experience of design and technology. We recommend therefore that the commencement date for key stage 4 should be Autumn

1993 when pupils will have studied the subject for the whole of key stage 3.

2.20 The way in which the time available for design and technology is organised will vary between individual schools. One factor which they will need to bear in mind at key stage 4 is the requirement in the programmes of study that each pupil should undertake design and technological tasks appropriate to their level which together must involve making an artefact, a system and an environment, although some outcomes of tasks will involve the integration of these. At level 7 and beyond, the practical activity must include two short tasks and one extended task. Most of the knowledge and skills set out in the programme of study will need to be covered during this practical activity and therefore teachers and pupils must ensure that the tasks undertaken will together involve a range of work which is sufficiently broad to achieve this.

GCSE

2.21. Our terms of reference asked us in framing attainment targets and programmes of study to assume that a majority of pupils would take the subject at GCSE level. We have already made clear our view that the attainment targets and programme of study represent the distinctive body of knowledge, skills and values required for design and technology. We have also indicated that they embrace much of the knowledge and skills currently taught in a range of existing subjects (art and design, business studies, CDT, home economics, IT). We believe that they can also provide a firm framework within which pupils would follow a single GCSE course in design and technology which involves an element of specialised activity. We recommend an approach, outlined below, which would allow flexibility for pupils to specialise, while at the same time avoid the plethora of course titles and content currently available.

2.22. We do not believe it is desirable or necessary to add to core knowledge and skills for pupils taking GCSE and therefore do not set out further attainment targets or programmes of study. To do so would lead to a prescription which would be either too general to form a basis for specialisation or too restricted in the sense of being undesirably narrow in the range of knowledge and skills covered.

2.23. We conclude therefore that pupils wishing to take GCSE in design and technology should be assessed on their work for the core programme, but should also develop specialised knowledge and skills through further practical activity. Such activity would take place as part of additional time beyond the core design and technology programme and make use of the teacher expertise within the design and technology team. It might involve

- undertaking tasks which involved working with a particular range of materials; or

- applying specialist knowledge and skills from another subject in the school's curriculum and be closely linked to that subject's programme though the end point would be a GCSE in design and technology. For example, a theatre set or a stage lighting system or a theatrical costume, linking closely with work in drama; or

- specialising in one of the contexts identified in the attainment targets.

This approach would provide considerable flexibility in the range of activity depending on the resources available (including teacher expertise) at individual schools.

2.24. It will be necessary to establish criteria to ensure that the activities are firmly set within the overall design and technology curriculum and form a sound basis for GCSE assessment. As far as the curriculum content is concerned, we propose the following criteria:

i. it should conform to the same attainment targets as the core;

ii. it should be rooted in knowledge and skills from the core, but also enable the pupil to develop specialised knowledge and skills in a particular area of design and technology;

iii. it should involve working within one of the following broad contexts: home, school, recreation, community, business and industry;

iv. it should involve two small projects and one extended project from the core programme, involving making an artefact, a system and an environment, and one further extended project;

v. the additional extended project for GCSE should not involve the same type of making activity as the major project for the core (ie if an artefact is designed and made as the extended project in the core programme, the extended project for GCSE must have as its main outcome a system or an environment);

vi. taken together with the programmes of study for the core, the activity should provide the basis for further study at A level and AS level, as well as BTEC courses, in any of the subjects associated with design and technology (for example, design and technology, home economics, graphics, business studies).

ATTAINMENT TARGETS AND ASSOCIATED STATEMENTS OF ATTAINMENT

2.25 We set out below our recommendations for attainment targets, the associated statements of attainment and the programmes of study for each level. The programmes of study relate to the attainment targets as a whole. We therefore repeat the relevant statements of attainment for all four ATs immediately before the programme of study for each level. The examples printed in italics serve to illustrate the statements of attainment and programmes of study and would be non-statutory.

ATTAINMENT TARGET 1 - IDENTIFYING NEEDS AND OPPORTUNITIES

Through exploration and investigation of a range of contexts (home, school, recreation, community, business and industry) pupils should be able to identify and state clearly needs and opportunities for design and technological activities.

Pupils should be able to:

LEVEL 1

Describe to others what they have observed in familiar contexts (eg classroom, home) or visualized about imaginary contexts (eg a desert island, a lunar landscape).

Suggest what might be done in that context (eg make a model, organise something in a different way).

LEVEL 2

Ask questions which assist them to identify needs and opportunities for design and technological activities in familiar contexts, (eg about how something works, how things are done).

Describe what they have observed or visualized and found out in their exploration of familiar contexts.

Suggest some purposeful and practical changes that could be brought about (eg of colour, form, function, organisation).

Describe to others why they made the choices that they did.

LEVEL 3

Investigate familiar contexts in a number of ways including finding information from relevant sources (eg books, databases, people).

Use scientific, design and technological and other knowledge (eg of people, materials, production and distribution of everyday products) to assist their investigation of contexts and their identification of needs and opportunities for design and technological activities.

Review their emerging ideas about possible needs and opportunities for design and technological activities with those involved and use this review in identifying these more clearly.

LEVEL 4

Investigate familiar contexts, and also some which require pupils to construct a working understanding of a less familiar situation (eg a local museum, a bus station, a school kitchen).

Devise simple ways of gathering information (eg interview and questionnaires and simple tests) in addition to using printed and other sources.

Recognise the points of view of others and consider what it is like to be in another person's situation.

Know that in history and in other cultures people have used design and technology to solve familiar problems (eg providing shelter) in many different ways.

Demonstrate that a range of criteria, sometimes conflicting (eg costs versus safety, finish versus time available) can be used in making judgements about what is worth doing.

Provide both oral and written justifications for the conclusions they reach as a result of their investigation of contexts.

LEVEL 5

Investigate contexts in a systematic way, showing judgement in the choice of sources of information and the use of both qualitative and quantitative data, as appropriate.

Recognise in their identification of needs and opportunities for design and technological activities that business considerations and the likes and dislikes of users are important.

LEVEL 6

Investigate contexts in a systematic way, showing judgement in the choice of sources of information and the use of both qualitative and quantitative data, as appropriate.

Work with others in the investigation of contexts in ways which involve planning, apportioning tasks, and optimising their use of resources.

Understand in general terms why needs and opportunities for design and technological activity in industry and in other cultures, developed in the particular ways that they did (eg means of food preparation, transport systems) and that the introduction of new technologies can offer new opportunities for design and technological activity (eg steam power for ships, computer peripherals).

Construct, using appropriate media (eg notes, photographs, print-outs, diagrams, charts, audio tapes), an account of the means by which they have identified needs and opportunities for design and technological activities and a justification of the conclusions they have reached.

LEVEL 7

Investigate contexts in a systematic way, demonstrating that they have varied their methods as appropriate until essential information has been acquired.

Identify and draw upon expert sources of advice relevant to the identification of needs and opportunities for design and technological activities (eg writing to businesses or visiting workplaces, asking appropriate specialist teachers, consult texts).

Analyse information of several kinds (eg scientific, technological, mathematical, aesthetic, economic, social, environmental) and draw conclusions from this about needs and opportunities for design and technological activities, recognising and resolving conflicting considerations (eg by an analysis of costs and benefits).

Apply a broad range of knowledge about the consumer/user and business and industrial considerations, such as prices, costs and benefits, competition and consumer appeal.

LEVEL 8

Investigate contexts in carefully planned ways with explicit recognition of the stages of such investigations.

Compare and contrast contexts from history and other cultures with those they have investigated themselves in order to enhance their understanding of factors which influence needs and opportunities for design and technological activities (eg survival clothing for different parts of the world).

Provide a detailed evaluation in the light of a broad range of considerations (eg economic, social, moral, environmental, legal) of the identified needs and opportunities for design and technological activities.

LEVEL 9

Formulate and deploy strategies for the investigation of less familiar situations (eg by transferring knowledge of how one system works to the exploration of another potentially similar system) and for the deeper investigation of familiar contexts (eg more focused research into the potential market for an established product).

Review their knowledge base in the course of an investigation of a new context, recognise the need for further knowledge, and exploit expert sources (eg a specialist database).

LEVEL 10

As for Level 9 but also:

Elicit and interpret the perceptions motivations and needs of people in a range of contrasting situations (eg by reviewing the answers to a questionnaire from people of different ages and incomes).

Convey, using presentation techniques matched to their audience, (eg multi-media display for a parents evening) that their identification of needs and opportunities is fully justified and worth developing.

Make sound judgements about what is properly a subject for design and technological activities and what is more properly dealt with in other ways (eg by social or economic or political measures).

ATTAINMENT TARGET 2 - DEVELOPING A DESIGN PROPOSAL

Pupils should be able to produce a realistic, appropriate and achievable design by generating, exploring and developing design and technological ideas and by refining and detailing the design proposal they have chosen.

Pupils should be able to:

LEVEL 1

Represent their ideas about what they might do (eg by modelling materials, role play).

LEVEL 2

Represent their ideas about what they might do (eg by making models, role play).

Use pictures, drawings, models, to develop their design proposal, giving simple reasons why they have chosen a certain idea for making.

LEVEL 3

Record, using appropriate media and methods, their explorations of different ideas about design and technological proposals to see how realistic they might be.

Use information about materials, people, markets and processes from their immediate environment (eg shops, schools, homes) and also from other time and cultures to help in developing their ideas.

Form a design proposal by selecting from their ideas, giving reasons for their choices (eg of function, style, use of resources).

Apply knowledge (eg of equipment and materials they have used) and skills (eg from their own work and work of others) in order to select ways of realising the different parts of their design.

Use drawings and modelling (eg annotated drawings, sketches, working models, simple measurement) to develop their design proposals.

LEVEL 4

Record the progress of their ideas, showing how they have clarified and developed them.

Review each idea using information obtained from their own investigations and from other sources as appropriate (eg text books, people).

Extend their initial ideas by combining various aspects as appropriate to formulate a design proposal (eg by taking elements from a variety of ideas).

Explore their design proposal in order to identify where decisions still need to be made, list these and suggest possible courses of action including modifications where appropriate which will improve their original design proposal.

Estimate the resource requirements (eg time, materials, tools, skills) and check on their availability.

Use drawings and models (eg simple plans, elevations, sections, flow diagrams, patterns and templates) and use basic editing techniques (eg story boards, page layout) in order to develop ideas and make modifications.

LEVEL 5

Record the progress of their ideas, showing how they have clarified and developed them.

Seek out information from a range of sources and organise this to help them develop their ideas and detail their design proposal.

Extend their initial ideas by combining various aspects as appropriate to formulate a design proposal and state reasons why some ideas were not used.

Specify what they intend to do and what they will need by using simple drawings, models, plans (eg technical and symbolic representation of components).

Establish and check the availability of the resources required (eg time, materials, skills, tools and equipment) adapting their design as appropriate.

LEVEL 6

Record how they have generated the diverse range of ideas which they have used to develop their design proposals.

Make explicit and apply relevant criteria (eg derived from knowledge of materials, people and processes) in order to judge how best to refine their ideas well beyond their initial thoughts into a design proposal.

Consider the details of their design and make judgements about realistic ways forward by exploring alternative solutions and where appropriate producing drawings and mockups, prototypes and working models in order to refine their design proposal.

Consider their design in terms of efficient use of resources, making modifications where appropriate.

Use specialist modelling techniques in a simple way to develop design proposals (eg basic one and two point perspective, basic orthographic and axonometric projection, toiles, basic mathematical models).

LEVEL 7

Record how they have generated the diverse range of their ideas which they have used to develop their design proposal.

Seek out, systematically appraise and use information derived from appropriate sources (eg historical and cultural ones) to develop and combine ideas and judge how realistic they might be.

Review the detail of their chosen design, in the light of their own experience and that of others, and suggest upon alternative ways of achieving what is required.

Apply relevant criteria including user requirements, costs, time, skill demands and aesthetic considerations, in order to take decisions about the details of the design proposal.

Produce an appropriately detailed design proposal recording their decisions and the means of making their chosen outcome, (eg through appropriate drawing methods, patterns, instructions, anthropometric models)

LEVEL 8

Record and present, using a range of appropriate methods and media (eg mock ups, sketches, notes, diagrams), the progression of their ideas; detail and refine their design proposal and incorporate modifications; use where appropriate computer aided design, image generation and desk top publishing techniques in exploring, detailing and refining their ideas.

Develop their ideas by exploiting a range of sources of information and justifying their selection of sources.

Plan their activities to take into account multiple constraints, (eg time, skills, making processes, information requirements), of which some may be conflicting.

Demonstrate a willingness to experiment and take risks within the limits of responsible designing (eg by using familiar materials in unfamiliar ways or situations).

LEVEL 9

As for Level 8 but also:

Detail and refine their design showing judgement in optimising practicable outcomes and, where appropriate, modify their original concept as a result of their detailing and refining.

Develop ideas by drawing on relevant information and understanding from a broad knowledge of sources, and showing judgement about the detail required.

LEVEL 10

As for Level 9 but also:

Provide a justified account of the full range of ideas they have explored and the strategies used showing:

i) evidence of the exploration of ideas used in existing artefacts, system or environments and their own innovative ideas;

ii) how they analysed their chosen proposal for purposes of refinement and detailing, predict with accuracy the outcomes of possible courses of action, resolved conflicting demands, and co-ordinate their decisions in a coherent specification using an appropriate range of media and methods (eg drawings, sketches, models, technical drawing and presentation techniques).

ATTAINMENT TARGET 3 - PLANNING AND MAKING

Working to a plan derived from their previously developed design, pupils should be able to identify, manage and use appropriate resources, including both knowledge and processes, in order to make an artefact, system or environment.

Pupils should be able to:

LEVEL 1

Use a variety of materials and components, tools and equipment to make simple models, drawings and structures.

LEVEL 2

Use their knowledge of the working characteristics of materials (eg will it take glue? will it tear?) and components, including construction kits, in making artefacts, systems or environments (eg models including ones which work and move).

Use a variety of simple hand tools and equipment safely.

Demonstrate when making that they can use materials and components appropriately.

Describe to others how they are going about their work.

LEVEL 3

Use their knowledge of the working characteristics (eg is it easy to shape? will it float?) of natural and manufactured materials and components to choose appropriate resources for the making.

Use a given range of hand tools and equipment, appropriate to the materials and components involved, safely and with some regard for accuracy and quality when making.

Take account of constraints of time and availability of resources in planning, making.

Improvise within the limits of their materials, resources and skills when faced with unforeseen difficulties.

LEVEL 4

Use their knowledge of the working characteristics (eg flexibility, texture, colour) of a range of readily available materials to identify those most suitable for the task in hand.

Choose tools, equipment and processes suitable for making their design and use these safely, accurately and with respect for future use.

Adopt procedures which will minimise waste, (eg in measuring out, ingredients and materials) paying regard to cost and achieve an acceptable accuracy and finish.

Adopt alternative ways of carrying forward their plan for making when they encounter obstacles, showing an awareness of when to seek help.

Use drawings, diagrams and models, as appropriate, to assist making.

Explain to others the order in which they will go about their tasks.

LEVEL 5

Use their knowledge of the properties and working characteristics of a range of materials and components to identify those most suitable for their design and use this while making.

Demonstrate by their choice and use of a variety of tools and equipment that they understand the basic principles upon which these work and the requirements for safety and accuracy.

Identify sub-stages in their making and co-ordinate these into a simple plan to ensure an efficient use of time, materials and labour.

Systematically apply their knowledge of materials, components and processes to overcome problems in making as these arise.

Use their knowledge of technical and symbolic representations of materials, components and processes to assist making (eg drawings, working models, prototypes, quarter scale garment models).

LEVEL 6

Use their knowledge of the properties and working characteristics of a broader range of materials and components and a knowledge of processes of greater complexity to identify those most suitable for their design and use this while making.

Demonstrate, by their choice and use of a variety of tools and equipment that they understand the basic principles upon which these work and the requirements for safety and accuracy - the range of tools and equipment being broader than that of Level 5 and the processes involved being of greater complexity.

Apply their procedures flexibly, drawing on a broad knowledge of materials, components, tools, equipment and processes, in order to overcome obstacles as making proceeds.

Plan and organise their making in detail in order to achieve their desired outcome.

Show judgement in seeking out appropriate advice and information (eg about tools, equipment and processes.)

Use their knowledge of technical and symbolic representations of materials, components and processes to assist making (eg drawings, working models, prototypes, quarter scale garment models).

LEVEL 7

Demonstrate competence in the use of a wide variety of generic skills associated with making (eg measurement, marking out, use of media, finishing) chosen on the basis of their understanding of the materials, components, tools and equipment involved, and of the intended scale of production towards which they are working (eg prototype, one-off, batch).

Plan and implement working procedures to match the various constraints on making (eg deadlines, cash flows) to overcome problems and to achieve an outcome of the desired quality.

Use a range of technical, symbolic and other modes of representation to assist in planning, organising, making and, where appropriate, incorporating modifications.

LEVEL 8

Demonstrate competence in the use of a wide variety of generic skills associated with making (eg measurement, marking out, use of media, finishing) chosen on the basis of their understanding of the materials, components, tools and equipment involved, and of the intended scale of production towards which they are working (eg prototype, one-off, batch) and display evidence of their knowledge of making processes and of associated standards of production.

Devise and implement procedures for quality control at various stages in the making process and of the final outcome.

Review different strategies that could be applied during making to optimise their use of materials, procedures, tools and equipment.

Identify and incorporate modifications which suggest themselves during making.

LEVEL 9

As for Level 8 but also:

Use their knowledge of a wide range of specialist conventions (eg iconic, symbolic, analogue models); and other means of communication (eg computer simulations) to assist making, to identify improvements and to justify what they are doing to particular audiences.

Demonstrate how they have overcome constraints and difficulties encountered during making in order to achieve an outcome of quality.

Make judgements about the quality and usefulness of their sources of advice and information.

LEVEL 10

Use a broad range of techniques, processes and other resources with confidence, safety and creativity to optimise the achievement of high quality outcomes.

Demonstrate how they have overcome constraints and difficulties encountered during making in order to achieve an outcome of high quality.

Review their design proposal in the light of constraints and difficulties encountered during making and show resourcefulness and adaptability in modifying their design and technological activities in order to achieve an outcome of high quality.

ATTAINMENT TARGET 4 - APPRAISING

Pupils should be able to develop, communicate and act constructively upon an appraisal of the processes, outcomes and effects of their own design and technological activities as well as of the outcomes and effects of the design and technological activities of others, including those from other times and cultures.

Pupils should be able to:

LEVEL 1

Describe to others what they have done and how satisfactory they think it is.

Describe to others what they like and dislike about familiar artefacts, systems or environments.

LEVEL 2

Discuss with teachers and others how satisfactory are the results of their design and technological activities, including function and form bearing in mind their original intention and how they went about their task.

Make some simple value judgements about familiar artefacts, systems or environments, including those from other times and cultures (eg how well it works, how pleasing is the appearance).

LEVEL 3

Discuss with teachers and others, the results of their design and technological activities, taking into account, where appropriate, how well it meets the needs of others.

Comment on the materials and processes used and how they went about their tasks.

LEVEL 4

Review the ways in which their design has developed during their design and technological activity, justifying their decisions and appraise outcomes in terms of original intentions.

Review the judgements they have made (eg the choice and use of resources, the planning of their activities and aesthetic, economic considerations) in achieving their final artefacts, systems or environments.

Comment upon existing artefacts, systems or environments, and those from other times and cultures, in terms of form and function, including appearance, use of resources.

Describe the social and economic implications of some artefacts, systems or environments (eg for jobs, for the quality of life).

LEVEL 5

Justify the materials, components, procedures, techniques and processes used, and indicate possible improvements.

Appraise the outcome in terms of the original needs or opportunities (eg how well it works, convenience of use, appearance) and how it might be improved (eg if they were to make it again, what would they change about what they did and how they went about it), taking into account users' views.

Understand that artefacts, systems or environments from other times and cultures have identifiable characteristics and styles, and draw upon this knowledge in their design and technological activities.

LEVEL 6

Reappraise the originally identified needs or opportunities.

Devise and carry out ways of testing the extent to which the product satisfies the design intentions.

Appraise the ways in which materials and components have been used and the result of this considering effectiveness, cost and aesthetic qualities.

Reappraise the procedures, techniques and processes used with regard to the choice of materials and components, the overall efficiency of resource use, and indicate possible improvements.

Illustrate the economic, moral, social and environmental consequences of design and technological innovations (including some from the past, and other cultures) by reference to specific examples.

LEVEL 7

Present an appraisal of the identified needs or opportunities, and of the processes, outcomes and effects of their design and technological activities. This should draw upon information which they have systematically gathered about the characteristics of the product and about the reactions to it of users, including considerations such as effectiveness in use, value for money, style and fashion. The appraisal should incorporate suggestions for improvements.

LEVEL 8

Present an appraisal of the identified needs or opportunities, and of the processes, outcomes and effects of their design and technological activities. This should draw upon information which they have systematically gathered about the characteristics of the product and about the reactions to it of users, including considerations such as effectiveness in use, value for money, style and fashion. The appraisal should incorporate suggestions for improvements and include a discussion of:

i) the relationship between the materials and components chosen, on the one hand, and the procedures, techniques and processes used, on the other. Where areas of conflict have arisen, the means used to resolve them should be justified;

ii) justifications of possible improvements in terms of technical and aesthetic considerations, as well as other value judgements.

iii) a reasoned and supported estimation of effects and consequences, including where appropriate, environmental and economic ones;

iv) where relevant, the suitability for manufacture of the product.

Understand that artefacts, systems or environments reflect the circumstances and values of particular cultures and communities, and that what is regarded as appropriate in one situation is not necessarily so in another (eg community health care provision, design of places for religious worship, design of clothes).

LEVEL 9

As for Level 8, but also:

Apply their knowledge and understandings derived from critical appraisal of their own design and technological activities, and draw upon appraisals by others to inform their own work.

LEVEL 10

As Level 9 but also:

Demonstrate through their choice of working methods and an instinctive discernment and flair in decision taking, the wide range and quality of their design and technological capability.

Appraise artefacts, systems or environments to show in general terms the interaction of influences (eg economic, political, moral, social) and use this knowledge in their own design and technological activity.

STATEMENTS OF ATTAINMENT - LEVEL 1

AT 1 Describe to others what they have observed in familiar contexts (eg classroom, home) or visualized about imaginary contexts (eg a desert island, a lunar landscape).

Suggest what might be done in that context (eg make a model, organise something in a different way).

AT 2 Represent their ideas about what they might do (eg by modelling materials, role play).

AT 3 Use a variety of materials and components, tools and equipment to make simple models, drawings and structures.

AT 4 Describe to others what they have done and how satisfactory they think it is.

Describe to others what they like and dislike about familiar artefacts, systems or environments.

PROGRAMME OF STUDY FOR LEVEL 1

At Level 1 pupils should develop design and technological capability through activities:

- which each involve all the attainment targets, and which are always purposefully developed in response to perceived needs or opportunities;
- based on contexts which are within their experience, both imaginary and realistic, such as children's pictures, poems and stories, the home, the school and local shops;
- some short and some extended, arising from a variety of contexts;
- which involve role play and visitors, for example parents, other teachers;
- undertaken individually and in groups which develop personal qualities necessary for successful design and technological work.

To achieve Level 1 across the attainment targets pupils should be taught:

Materials and Components	- to handle, use and explore a variety of materials and components, such as fabrics, paper card, 'dough-like' materials, disposable products and construction kits. (Also applying aspects of Science AT 6)
Energy	- to use purposefully sources of energy, such as elastic bands, moving water and falling weights, in making things move and change. (Also applying aspects of Science ATs 10 and 13)
Business and Economics	- to recognise that goods and services are bought and sold.
Tools and Equipment	- to recognise, handle and use safely a variety of simple tools.
Aesthetics	- to recognise in their work and surroundings aesthetic characteristics of line, shape, form, structure, colour, pattern and texture. (Also applying aspects of Mathematics ATs 10 and 11)
Systems	- that a system or an environment is made from a number of related parts which combine to achieve a particular purpose, examples observing clocks, bicycles, or play shops, play houses. (Also applying aspects of Science ATs 10, 12 and 13)

Structures	- to recognise the simple structures around them and use components to make some themselves, eg making towers or buildings from simple construction kits.
Mechanisms	- to recognise that materials and components can be linked in various ways to make movement, eg exploring toys and everyday articles like hinges and zips. (Also applying aspects of Science ATs 10, 11 and 13)
Exploring and Investigating	- to observe and talk about a variety of familiar products. (Also applying aspects of Science ATs 1 and 12, Mathematics ATs 1, 9, 12 and 13 and English AT 1)
Imaging and Generating	- to use their imagination in creative activities, such as story telling, role play, drawing, painting and modelling.
Modelling and Communicating	- to represent their ideas, eg by talking, role play, drawing, painting and modelling. (Also applying aspects of Mathematics ATs 12 and 13 and English AT 1)
Organising and Planning	- to plan a simple sequence of activities, such as sorting and matching, jigsaws and pattern making.
Making	- to use a variety of materials and tools to make simple models, structures and environments.
Appraising	- to talk about what they have done; to talk about why they like and dislike things, such as places, clothes and pictures.
Health and Safety	- that any tools and equipment they use should be used correctly and safely. (Also applying aspects of Science AT 11)
Social and Environmental	- to talk about the needs of people, animals and plants.

STATEMENTS OF ATTAINMENT - LEVEL 2

AT 1 Ask questions which assist them to identify needs and opportunities for design and technological activities in familiar contexts, (eg about how something works, how things are done).

Describe what they have observed or visualized and found out in their exploration of familiar contexts.

Suggest some purposeful and practical changes that could be brought about (eg of colour, form, function, organisation).

Describe to others why they made the choices that they did.

AT 2 Represent their ideas about what they might do (eg by making models, role play).

Use pictures, drawings, models, to develop their design proposal, giving simple reasons why they have chosen a certain idea for making.

AT 3 Use their knowledge of the working characteristics of materials (eg will it take glue? will it tear?) and components, including construction kits, in making artefacts, systems or environments (eg models including ones which work and move).

Use a variety of simple hand tools and equipment safely.

Demonstrate when making that they can use materials and components appropriately.

Describe to others how they are going about their work.

AT 4 Discuss with teachers and others how satisfactory are the results of their design and technological activities, including function and form bearing in mind their original intention and how they went about their task.

Make some simple value judgements about familiar artefacts, systems or environments, including those from other times and cultures (eg how well it works, how pleasing is the appearance).

PROGRAMME OF STUDY FOR LEVEL 2

At Level 2 pupils should develop design and technological capability through activities:

- which each involve all the attainment targets, and which are always purposefully developed in response to perceived needs or opportunities;
- based on contexts which are within their experience, both imaginary and realistic, such as children's pictures, poems and stories, the home, the school and local shops;
- some short and some extended, arising from a variety of contexts requiring an increasing breadth of knowledge, skills and values;
- which involve simulations, role play and visitors, for example parents, other teachers;
- which provide opportunities to look at the artefacts, systems or environments created by others;
- undertaken individually and in groups which develop personal qualities necessary for successful design and technological work.

To achieve Level 2 across the attainment targets pupils should be taught:

Materials and Components	- to handle, use and explore a variety of materials, media and components such as fabrics, paper card, 'dough-like' materials, disposable products and construction kits. - the properties including weight, strength and texture; - the working characteristics of materials and components, eg capable of being joined, mixed and formed. (Also applying aspects of Science ATs 6 and 11)
Energy	- to use purposefully sources of energy, such as elastic bands, batteries, moving water and falling weights, in making things move and change. (Also applying aspects of Science ATs 10 and 13)
Business and Economics	- that goods and services are designed and made, distributed, bought and sold.
Tools and Equipment	- to recognise, handle and use safely a variety of simple tools and equipment when designing and making; - how simple tools function and how to look after them.
Aesthetics	- to make choices about the use of aesthetic characteristics in their drawings, paintings and modelling. (Also applying aspects of Mathematics ATs 10 and 11)

Systems	- that a system or an environment is made from a number of related parts which combine to achieve a particular purpose; - that control is making things do what they want them to do, eg steering, lighting, switching. (Also applying aspects of Science ATs 10, 12 and 13)
Structures	- to explore materials and components to make simple structures for a purpose, such as containers and fantasy beasts. (Also applying aspects of Science AT 10)
Mechanisms	- to explore and use materials and components, to make simple things that move, eg rubber bands, cotton reels, paper clips and lollipop sticks. (Also applying aspects of Science ATs 1 and 12)
Exploring and Investigating	- to ask people about their needs; - to gather, organise, store and present information when designing and making. (Also applying aspects of Science ATs 1 and 12, Mathematics ATs 1, 9, 12 and 13, English AT 1 and Information Technology AT)
Imaging and Generating	- to visualise and recall experiences as a stimulus for their creative activities; such as talking, role play, drawing, painting and modelling.
Modelling and Communicating	- to represent and develop their ideas by drawings, models and language; - to use role play to enact their own and other people's experiences and needs. (Also applying aspects of Mathematics ATs 12 and 13 and English ATs 1 and 3)
Organising and Planning	- to plan a simple sequence of activities, such as sorting and matching, jigsaws and pattern making.
Making	- to select and use appropriate materials, tools and equipment for their making activities.
Appraising	- to talk about what they have done, what they have learnt and what they might do differently next time; - to make a simple appraisal of products, eg toys, buildings and clothes, and ask questions, such as: Why was it made? What was it made of? How is it put together? How does it work?
Health and Safety	- that any tools and equipment they use should be used correctly and safely; - to care for the environment in which they work. (Also applying aspects of Science AT 11)
Social and Environmental	- that resources are not infinite and that some technological solutions can cause damage; - to recognise that people like and need different things.

STATEMENTS OF ATTAINMENT - LEVEL 3

AT 1 Investigate familiar contexts in a number of ways including finding information from relevant sources (eg books, databases, people).

Use scientific, design and technological and other knowledge (eg of people, materials, production and distribution of everyday products) to assist their investigation of contexts and their identification of needs and opportunities for design and technological activities.

Review their emerging ideas about possible needs and opportunities for design and technological activities with those involved and use this review in identifying these more clearly.

AT 2 Record, using appropriate media and methods, their explorations of different ideas about design and technological proposals to see how realistic they might be.

Use information about materials, people, markets and processes from their immediate environment (eg shops, schools, homes) and also from other time and cultures to help in developing their ideas.

Form a design proposal by selecting from their ideas, giving reasons for their choices (eg of function, style, use of resources).

Apply knowledge (eg of equipment and materials they have used) and skills (eg from their own work and work of others) in order to select ways of realising the different parts of their design.

Use drawings and modelling (eg annotated drawings, sketches, working models, simple measurement) to develop their design proposals.

AT 3 Use their knowledge of the working characteristics (eg is it easy to shape? will it float?) of natural and manufactured materials and components to choose appropriate resources for the making.

Use a given range of hand tools and equipment, appropriate to the materials and components involved, safely and with some regard for accuracy and quality when making.

Take account of constraints of time and availability of resources in planning, making.

Improvise within the limits of their materials, resources and skills when faced with unforeseen difficulties.

AT 4 Discuss with teachers and others, the results of their design and technological activities, taking into account, where appropriate, how well it meets the needs of others.

Comment on the materials and processes used and how they went about their tasks.

PROGRAMME OF STUDY FOR LEVEL 3

At Level 3 pupils should develop design and technological capability through activities:

- which each involve all the attainment targets, and which are always purposefully developed in response to perceived needs or opportunities;
- which are developed progressively to extend their experience from contexts which are familiar, to ones which are less familiar;
- some short and some extended arising from a variety of contexts and requiring an increasing breadth of knowledge, skills and values;
- which offer some opportunities for them to identify their own tasks for designing and making from within given contexts;
- which involve simulations, role play and visits or visitors, eg local businesses or service industries;
- which provide opportunities to look at the artefacts, systems or environments created by others;
- undertaken individually and in groups which develop personal qualities necessary for successful design and technological work.

To achieve Level 3 across the attainment targets pupils should be taught:

Materials and Components

- to identify common natural and manufactured materials;
- to join common materials and components in simple ways;
- to use materials, media and components that are appropriate for the task in hand, when designing and making;
- to recognise that materials can be worked in ways that can change their characteristics and working properties, eg paper to papier-mache.

(Also applying aspects of Science ATs 6 and 11)

Energy

- to recognise that a source of energy is needed to make a model, machine or device work;
- to use a variety of energy sources, eg batteries, elastic bands, themselves, and devices which transfer energy, eg, lamps, motors, sails, levers, in experimenting and model making;
- to control, in simple ways, energy sources to meet specific needs, eg switches in electric circuits;
- that forces, such as the weight of objects used, need to be considered when designing and making.

(Also applying aspects of Science ATs 10 and 13)

Business and Economics

- that goods and services resulting from design and technological activities can be advertised, distributed, bought and sold;
- that within the provision of goods and services people work in teams but have specialist roles;
- that resources, such as materials and time, are limited and that choices must be made about their use.

Tools and Equipment	- to recognise, handle and use safely a variety of tools and equipment; - to recognise that tools and equipment need to be safety stored and maintained; - to use these tools and equipment to shape, cut, reform, join, mark and finish a variety of materials.
Aesthetics	- to recognise and use the basic characteristics of line, shape, form, structure, light colour, pattern and texture, when designing and making; - to recognise and use basic spatial relationships, such as elements in a pattern and parts of a machine; - to recognise in the made world a variety of forms resulting from people's different values and beliefs; - to recognise the relationships between the aesthetic characteristics of an artefact or environment and how people react to those characteristics. (Also applying aspects of Mathematics ATs 10 and 11)
Systems	- to identify the function performed by a system and/or sub-system within a product, eg torch, clockwork or electrical toy; - to consider what is the input and output of a system, eg a hand whisk, hand drill; - to consider how effective a simple system is and whether modifications could be made, eg showing visitors around a school; - to give a sequence of instructions to control outcomes, including movement, eg control a robot device or arrowhead on the screen. (Also applying aspects of Science ATs 10, 11, 12 and 13)
Structures	- that structures occur naturally or can be manufactured, eg plant stems, honeycombs, spiders' web, corrugated paper; - to recognise that structures have distinctive characteristics including form and stability, and to use this when creating structures, eg pylons, puppets; - that structures respond to the forces applied to them, eg placing a load on paper folded in different sections. (Also applying aspects of Science AT 10)
Mechanisms	- how mechanisms can change one type of motion to another by using interconnected parts, eg through linkages; - to model simple linkage systems to achieve a desired output, eg to make a vehicle climb a ramp. (Also applying aspects of Science ATs 10, 11 and 13)
Exploring and Investigating	- to explore needs and opportunities prior to proposing solutions; - to gather, organise and store information, by methods including questionnaires and simple tests, which can be used as part of their designing and making activity; - to appraise familiar products to see how they meet their intended use. (Also applying aspects of Science ATs 1 and 12, Mathematics ATs 1, 9, 12 and 13, English AT 1 and 2 and Information Technology AT)

Imaging and Generating	- to recognise that imaging can generate ideas for action; - to use their imagination to explore ideas; by means such as brainstorming, role play, examining objects and places, drawing and modelling.
Modelling and Communicating	- that there is a relationship between the form and purpose of a drawing or model; - how to develop the range of techniques they use in drawing and modelling, such as observational drawings, annotated drawings, sketches, scale and working models, simple measurements of people and products. (Also applying aspects of Science ATs 12 and 13 and English ATs 1 and 3)
Organising and Planning	- to organise their work; - to identify what should be done; - to take into account constraints, such as time, availability of materials or equipment; - to plan a sequence to aid making.
Making	- to employ making skills safely in order to translate their designs into outcomes; - to use tools and equipment in a proper and sensitive manner, in ways appropriate to the material being worked and to the task in hand; - to rearrange materials during making, eg folding, bending, twisting and mixing; - to make products with regard to quality; - that holding work appropriately is essential for safe practice.
Appraising	- that appraisal should occur throughout designing and making; - to evaluate the outcome of their work against the original intention; - to propose simple modifications that might improve the effectiveness of their design solution; - to reflect, individually and in groups, on how they went about designing and making and how and why they might change the procedure if they were to do it again; - to evaluate in simple subjective ways products designed and made by others.
Health and Safety	- that at all times tools, materials and equipment should be used safely; - to be aware of the potential dangers of the misuse of materials, tools and equipment and the health implications of such actions. (Also applying aspects of Science AT 11)
Social and Environmental	- that in producing a solution to a need or opportunity may well result in causing other problems; - to recognise the social, economic and environmental effects of technological solutions.

STATEMENTS OF ATTAINMENT - LEVEL 4

AT 1

Investigate familiar contexts, and also some which require pupils to construct a working understanding of a less familiar situation (eg a local museum, a bus station, a school kitchen).

Devise simple ways of gathering information (eg interview and questionnaires and simple tests) in addition to using printed and other sources.

Recognise the points of view of others and consider what it is like to be in another person's situation.

Know that in history and in other cultures people have used design and technology to solve familiar problems (eg providing shelter) in many different ways.

Demonstrate that a range of criteria, sometimes conflicting (eg costs versus safety, finish versus time available) can be used in making judgements about what is worth doing.

Provide both oral and written justifications for the conclusions they reach as a result of their investigation of contexts.

AT 2

Record the progress of their ideas, showing how they have clarified and developed them.

Review each idea using information obtained from their own investigations and from other sources as appropriate (eg text books, people).

Extend their initial ideas by combining various aspects as appropriate to formulate a design proposal (eg by taking elements from a variety of ideas).

Explore their design proposal in order to identify where decisions still need to be made, list these and suggest possible courses of action including modifications where appropriate which will improve their original design proposal.

Estimate the resource requirements (eg time, materials, tools, skills) and check on their availability.

Use drawings and models (eg simple plans, elevations, sections, flow diagrams, patterns and templates) and use basic editing techniques (eg story boards, page layout) in order to develop ideas and make modifications.

AT 3

Use their knowledge of the working characteristics (eg flexibility, texture, colour) of a range of readily available materials to identify those most suitable for the task in hand.

Choose tools, equipment and processes suitable for making their design and use these safely, accurately and with respect for future use.

Adopt procedures which will minimise waste, (eg in measuring out, ingredients and materials) paying regard to cost and achieve an acceptable accuracy and finish.

Adopt alternative ways of carrying forward their plan for making when they encounter obstacles, showing an awareness of when to seek help.

Use drawings, diagrams and models, as appropriate, to assist making.

Explain to others the order in which they will go about their tasks.

AT 4 Review the ways in which their design has developed during their design and technological activity, justifying their decisions and appraise outcomes in terms of original intentions.

Review the judgements they have made (eg the choice and use of resources, the planning of their activities and aesthetic, economic considerations) in achieving their final artefacts, systems or environments.

Comment upon existing artefacts, systems or environments, and those from other times and cultures, in terms of form and function, including appearance, use of resources.

Describe the social and economic implications of some artefacts, systems or environments (eg for jobs, for the quality of life).

PROGRAMME OF STUDY FOR LEVEL 4

At Level 4 pupils should develop design and technological capability through activities:

- which each involve all the attainment targets, and which are always purposefully developed in response to perceived needs or opportunities;
- which are developed progressively to extend their experience from contexts which are familiar, to ones which are less familiar;
- some short and some extended, arising from a variety of contexts and requiring an increasing breadth of knowledge, skills and values;
- which offer increasing opportunities for them to identify their own tasks for designing and making from within given contexts;
- which involve simulations, role play, visits and visitors, eg local businesses or service industries;
- which introduce them to appraising the artefacts, systems or environments created by others;
- undertaken individually and in groups which develop personal qualities necessary for successful design and technological work.

To achieve Level 4 across the attainment targets pupils should be taught:

Materials and Components

- to recognise the different working properties, eg flexibility and softness, and aesthetic characteristics of natural and manufactured materials;
- to join materials and components in both permanent and semi-permanent forms, eg gluing and pinning;
- to select and use materials, media and components appropriately by matching their characteristics and properties to needs when designing;
- how to rearrange materials in order to change their strength or character and to increase their usefulness when designing and making eg folding and bending paper, using material for hinges.

(Also applying aspects of Science ATs 6 and 11)

Energy	- to recognise the energy sources in a variety of familiar devices and situations; - to select and use a variety of energy sources, eg batteries, elastic bands, themselves, and devices which transfer energy, eg lamps, motors, sails, levers, to meet different design needs; - to take into account the characteristics of different energy sources when designing products, such as the weight of a battery or the variability of winds or sunlight; - to select and apply methods of controlling the use of energy to meet design needs, eg switches, gears, taps, valves; - that there are a number of different forces such as gravity and friction, acting on objects, and that these need to be considered when designing and making products. (Also applying aspects of Science ATs 10 and 13)
Business and Economics	- that needs and preferences of consumers influence the design and production of goods and services; - that advertising helps promote goods and services; - that costs include considerations of time, people, skills, money, equipment and materials; - that products may be designed to be produced singly or in quantity and this affects what each costs.
Tools and Equipment	- to select and use the correct tools and equipment for the purpose intended; - to check the condition of tools and equipment to ensure they can be used efficiently, effectively and safely; - to use tools intelligently and skilfully to produce work of appropriate quality.
Aesthetics	- to use, in combination, aesthetic characteristics of line, shape, form, structure, light, colour, pattern and texture to produce a desired effect; - to use spatial relationships in order to create desired two and three dimensional effects; - to design artefacts or environments in order to create aesthetic effects; - to exploit the ways in which people react to, or might react to, aesthetic characteristics expressed through their designing and making activities; (Also applying aspects of Mathematics ATs 10 and 11)
Systems	- to use their knowledge and understanding of systems and sub-systems to inform their designing and making activities; - to consider the efficiency of a designed system in terms of inputs and outputs; - to consider the efficiency of a system and whether design modifications should be made, in order to improve it; - to discuss the different methods of controlling movement and effects, including the use of IT, such as one the screen and through programmable robots, and to use some of these different methods when designing. (Also applying aspects of Science ATs 10, 11, 12 and 13)

Structures	- that a structure can be seen as a sub-set of systems; - how structures respond to simple external forces by bending, twisting or failing at joints; - to use their knowledge and understanding of structures to design and make a structure which will withstand a specific loading, eg a bridge; - to recognise that familiar situations, such as the organisation of a school, can be represented as a structure. (Also applying aspects of Science AT 10)
Mechanisms	- that mechanisms can be seen as a sub-set of systems; - to select appropriate mechanisms to change one type of motion into another, eg gears and cranks; - to exploit the potential of simple linkage systems when designing and modelling to achieve desired outcome; - that mechanisms need to be controlled if they are to achieve their intended function, eg steering a bicycle, changing gear on a bicycle or applying a brake. (Also applying aspects of Science ATs 10, 11 and 13)
Exploring and Investigating	- to explore and investigate a range of different contexts in order to identify opportunities for design and technological activities; - to collect, refer to, and use information relevant to contexts when investigating their potential for design and technological activities; - to propose modifications to existing products that would improve their efficacy, performance, appeal and efficiency. (Also applying aspects of Science ATs 1 and 12, Mathematics ATs 1, 9, 12 and 13, English ATs 1 and 2 and Information Technology AT.)
Imaging and Generating	- to recognise the necessary connection between imaging, modelling and recording when designing; - to generate ideas and to explore ways in which they can be further developed and refined when designing and making by means, such as brainstorming, role play, examining objects and places, drawing and modelling.
Modelling and Communicating	- that communication depends on a consideration of what is to be conveyed, the audience and the medium to be used; - to use drawings and models in order to explore ideas and make modifications, when designing and making; - how to extend the range of techniques in drawing and modelling, such as simple plans, elevations, sections pictorial perspective, flow diagrams, patterns and templates; - how to plan and structure their communication through the use of basic editing techniques, such as scripts, storyboards, page layouts and rehearsals. (Also applying aspects of Mathematics ATs 12 and 13 and English ATs 1 and 3)

Organising and Planning	- to plan their work carefully recognising that they may need to accommodate new ideas or opportunities as they arise when designing and making; - to use their knowledge and judgement to decide how to proceed in light of conflicting priorities or constraints; - to organise working spaces and to plan procedures and sequences for practical activities; - to organise teams when working as groups.
Making	- to develop their sensitivity in using tools and materials together; - to employ their skills safely, with increasing control when making their designs; - to make as appropriate two and three dimensional models of their design ideas or proposals and to test these for suitability before proceeding further; - to use correct procedures when working materials in order to achieve outcomes of quality; - to finish their work carefully, in ways that are appropriate to the task, in order to display a quality which enhances the product.
Appraising	- that evaluation is necessary at each stage of their work; - that making adjustments as a result of evaluation may be necessary while designing and making; - to evaluate with some objectivity the outcome of their design and technological activities against the original need; - to propose modifications that would improve the overall quality of their design outcome and its effectiveness when measured against the original intention; - to reflect on the approach taken, procedures adopted and outcome achieved and to relate any changes they would have made to the planning of their next task; - to evaluate subjectively products designed and made by others.
Health and Safety	- to be aware that a well ordered environment is essential for safe working; - to take some responsibility for keeping their working area orderly and safe. (Also applying aspects of Science AT 11)
Social and Environmental	- to consider the possible consequences of their design proposals before taking them forward to completion; - to recognise the needs and values of groups from a variety of - backgrounds and cultures when designing.

STATEMENTS OF ATTAINMENT - LEVEL 5

AT 1 Investigate contexts in a systematic way, showing judgement in the choice of sources of information and the use of both qualitative and quantitative data, as appropriate.

Recognise in their identification of needs and opportunities for design and technological activities that business considerations and the likes and dislikes of users are important.

AT 2 Record the progress of their ideas, showing how they have clarified and developed them.

Seek out information from a range of sources and organise this to help them develop their ideas and detail their design proposal.

Extend their initial ideas by combining various aspects as appropriate to formulate a design proposal and state reasons why some ideas were not used.

Specify what they intend to do and what they will need by using simple drawings, models, plans (eg technical and symbolic representation of components).

Establish and check the availability of the resources required (eg time, materials, skills, tools and equipment) adapting their design as appropriate.

AT 3 Use their knowledge of the properties and working characteristics of a range of materials and components to identify those most suitable for their design and use this while making.

Demonstrate by their choice and use of a variety of tools and equipment that they understand the basic principles upon which these work and the requirements for safety and accuracy.

Identify sub-stages in their making and co-ordinate these into a simple plan to ensure an efficient use of time, materials and labour.

Systematically apply their knowledge of materials, components and processes to overcome problems in making as these arise.

Use their knowledge of technical and symbolic representations of materials, components and processes to assist making (eg drawings, working models, prototypes, quarter scale garment models).

AT 4 Justify the materials, components, procedures, techniques and processes used, and indicate possible improvements.

Appraise the outcome in terms of the original needs or opportunities (eg how well it works, convenience of use, appearance) and how it might be improved (eg if they were to make it again, what would they change about what they did and how they went about it), taking into account users' views.

Understand that artefacts, systems or environments from other times and cultures have identifiable characteristics and styles, and draw upon this knowledge in their design and technological activities.

PROGRAMME OF STUDY FOR LEVEL 5

At Level 5 pupils should develop design and technological capability through activities:

- which each involve all the attainment targets, and which are always purposefully developed in response to perceived needs or opportunities;
- which have differing focuses, some demanding the need to work to a given specification, others where they develop their own task from identified needs or opportunities;
- which vary in duration, for example six hours to twenty four hours;
- which develop confidence in designing and making and allow them to take increasing responsibility for the form and nature of their work;
- which enable them to seek out and apply knowledge, skills and values in a constructive and purposeful manner;
- which offer increasing opportunities for them to identify their own tasks for designing and making from within given contexts;
- which introduce them to appraising the artefacts, systems or environments created by others;
- which involve simulations, visits and visitors;
- which foster enterprise and initiative;
- undertaken individually and in groups which develop personal qualities, necessary for successful design and technological work.

To achieve level 5 across the attainment targets pupils should be taught:

Materials and Components

- a working knowledge of the characteristics of a range of materials, media and components, examples hardness, flexibility, reaction to heat and strain;
- how to select materials and components against criteria, such as characteristics, cost, availability and intended outcome, when designing;
- to join materials and components in both permanent and semi-permanent forms.

(Also applying aspects of Science ATs 6 and 11).

Energy

- that there are various primary sources that can provide energy, such as sun, water, wind, hot rocks, fossil and nuclear fuels;
- that electricity provides a versatile means of transferring energy;
- that transferring and using energy results in effects, such as heating and the generation of forces, and that these effects need to be considered when designing and making.

(Also applying aspects of Science ATs 10 and 13).

Business and Economics	- to recognise the importance of consumer choice and hence the importance of product quality when designing; - to identify markets for good and services; - to plan a simple budget, eg calculating the unit costs and value added to the final product; - that in production and distribution of goods and services, the control of stock is an important consideration; - that original designs can be granted patents. (Also applying aspects of Mathematics ATs 1, 3 and 4.)
Tools and Equipment	- to apply the appropriate techniques and processes when using tools and equipment in a safe and accurate manner; - to recognise the purposes of a variety of tools and equipment, to understand their handling characteristics, and the basic principles upon which they work and to apply these to the task in hand.
Aesthetics	- to make the connections between aesthetic characteristics in the natural and made world and relate these to their own work; - to use materials, processes, tools and equipment to produce specific aesthetic results; - that appearance plays an important part in the value that consumers and users place on an artefact or an environment. (Also applying aspects of Mathematics ATs 10 and 11.)
Systems	- to identify systems, sub-systems, components and their functions and relationships, and use this knowledge to inform their designing and making activities; - that all systems are subject to control in ways which involve: inputs, outputs, feedback and stability. (Also applying aspects of Science ATs 10, 11, 12 and 13.)
Structures	- to test simple structures they have created; - how to recognise and represent organisational structures, eg. street plans, operation of services such as police, fire or ambulance. (Also applying aspects of Science AT 10).
Mechanisms	- to identify the basic principles of a range of different mechanisms, such as linkages and gears, to achieve rotary, linear, oscillating and reciprocating motion and convert this from one form to another; - to select and use simple mechanisms, including linkages and gearing, when creating prototypes and designing and making; - to recognise the various forces which operate on and influence mechanisms, including friction and dynamic forces. (Also applying aspects of Science ATs 10, 11 and 13.)
Exploring and Investigating	- to be systematic in the exploration and investigation of contexts for the identification of needs and opportunities; - that purposeful investigation requires them to gather, select and organise data so that is can be used; - that exploration and investigation form a platform for the generation of ideas; - to investigate existing artefacts or systems or environments with a view to applying aspects in new designs. (Also applying aspects of Science ATs 1 and 12, Mathematics ATs 1, 9, 12 and 13, English AT 1 and 2 and Information Technology AT.)

Imaging and Generating	- to break design tasks into sub-tasks and to focus on each in turn as a way of extending and developing the generation of ideas throughout designing and making.
Modelling and Communicating	- to recognise the relationship between two dimensional representations and three dimensional forms; - how to present their design and technological ideas and proposals using modelling techniques and specialist vocabulary, such as conceptual drawings and models, brief writing and report writing; - to develop a personal style of expression. (also applying aspects of Mathematics ATs 12 and 13)
Organising and Planning	- to organise and plan so that their work becomes more effective; - how to modify their intentions as unexpected situations arise; - to allocate time and other resources effectively throughout the designing and making activity.
Making	- that making requires coordination, control and sensitivity when using tools and equipment to work materials satisfactorily, and that is may be necessary in some cases to practise an operation in order to ensure a successful outcome; - to use a range of graphic techniques and processes to make, for example packaging products and advertising products; - how to achieve an acceptable minimum degree of quality in their work with respect to accuracy and finish; - to exercise persistence in the course of their making, as appropriate, to achieve a successful outcome; - how to assemble materials and components when making.
Appraising	- how to establish and apply criteria to assist their judgements about:- - the needs and opportunities identified. - the choice of materials, components, tools and equipment to achieve their design, - designing and making procedures adopted, - the outcome of their design; - how to use their appraisal of the work of others in order to help their own design and technological activity.
Health and Safety	- to take responsibility for the working environment and ensure it is well ordered and safe; - to identify hazards in the working environment at school; - to take appropriate action when dangerous situations occur.
Social and Environmental	- to investigate the effects of design and technological activity on the environment; - to consider the needs and values of individuals and of groups from a variety of backgrounds and cultures, when designing. (Also applying aspects of Science AT 16.)

STATEMENTS OF ATTAINMENT - LEVEL 6

AT 1

Investigate contexts in a systematic way, showing judgement in the choice of sources of information and the use of both qualitative and quantitative data, as appropriate.

Work with others in the investigation of contexts in ways which involve planning, apportioning tasks, and optimising their use of resources.

Understand in general terms why needs and opportunities for design and technological activity in industry and in other cultures, developed in the particular ways that they did (eg means of food preparation, transport systems) and that the introduction of new technologies can offer new opportunities for design and technological activity (eg steam power for ships, computer peripherals).

Construct, using appropriate media (eg notes, photographs, print-outs, diagrams, charts, audio tapes), an account of the means by which they have identified needs and opportunities for design and technological activities and a justification of the conclusions they have reached.

AT 2

Record how they have generated the diverse range of ideas which they have used to develop their design proposals.

Make explicit and apply relevant criteria (eg derived from knowledge of materials, people and processes) in order to judge how best to refine their ideas well beyond their initial thoughts into a design proposal.

Consider the details of their design and make judgements about realistic ways forward by exploring alternative solutions and where appropriate producing drawings and mockups, prototypes and working models in order to refine their design proposal.

Consider their design in terms of efficient use of resources, making modifications where appropriate.

Use specialist modelling techniques in a simple way to develop design proposals (eg basic one and two point perspective, basic orthographic and axonometric projection, toiles, basic mathematical models).

AT 3

Use their knowledge of the properties and working characteristics of a broader range of materials and components and a knowledge of processes of greater complexity to identify those most suitable for their design and use this while making.

Demonstrate, by their choice and use of a variety of tools and equipment that they understand the basic principles upon which these work and the requirements for safety and accuracy - the range of tools and equipment being broader than that of Level 5 and the processes involved being of greater complexity.

Apply their procedures flexibly, drawing on a broad knowledge of materials, components, tools, equipment and processes, in order to overcome obstacles as making proceeds.

Plan and organise their making in detail in order to achieve their desired outcome.

Show judgement in seeking out appropriate advice and information (eg about tools, equipment and processes.)

Use their knowledge of technical and symbolic representations of materials, components and processes to assist making (eg drawings, working models, prototypes, quarter scale garment models).

AT 4 Reappraise the originally identified needs or opportunities.

Devise and carry out ways of testing the extent to which the product satisfies the design intentions.

Appraise the ways in which materials and components have been used and the result of this considering effectiveness, cost and aesthetic qualities.

Reappraise the procedures, techniques and processes used with regard to the choice of materials and components, the overall efficiency of resource use, and indicate possible improvements.

Illustrate the economic, moral, social and environmental consequences of design and technological innovations (including some from the past, and other cultures) by reference to specific examples.

PROGRAMME OF STUDY FOR LEVEL 6

At level 6 pupils should develop design and technological capability through activities:

- which each involve all the attainment targets, and which are always purposefully developed in response to perceived needs or opportunities;
- which have differing focuses, some demanding the need to work to a given specification, others where they develop their own task from identified needs or opportunities;
- which vary in duration, for example six hours to twenty four hours;
- which develop confidence in designing and making and allow them to take increasing responsibility for the form and nature of their work;
- which enable them to seek out and apply knowledge, skills and values in a constructive and purposeful manner;
- which offer increasing opportunities for them to identify their own tasks for designing and making from within given contexts;
- which allow them to appraise artefacts, systems or environments created by others;
- which involve simulations, visits and visitors;
- which foster enterprise and initiative;
- undertaken individually and in groups which develop personal qualities, necessary for successful design and technological work.

To achieve level 6 across the attainment targets pupils should be taught:

Materials and Components

- a working knowledge of the characteristics and basic properties of a range of materials, media and components;
- how to select materials and components against criteria, such as working properties and characteristics, cost, availability, facilities available and intended outcome, when designing;
- to join materials and components in both permanent and semi-permanent forms, eg. gluing, soldering - using screws and bolts, velcro or buttons;
- how to combine or mix materials to create materials with different properties.

(Also applying aspects of Science ATs 6 and 11.)

Energy	- that in practical systems, the useful energy output is always less than the total energy input; - to select appropriately from a variety of energy sources and transfer devices, and use them safely, when designing and making; - to recognise the implications of global energy resources being limited, eg. use of tidal and nuclear power to conserve fossil fuels; - the potential effects of the use of energy on human comfort and convenience, eg. heating, lighting and sound; - about the environmental consequences of energy usage. (Also applying aspects of Science ATs 10 and 13.)
Business and Economics	- to consider the influences of advertising on consumers; - to identify present and potential markets for goods and services and recognise local variation in demand; - to prepare a simple business plan, including a cash forecast and budget, and monitor performance against it; - that teams need to be managed and motivated if they are to be effective in the design and production of goods and services; - to recognise the importance of the relationship between price, cost, income and the nature of competition in the market for goods and services. (Also applying aspects of Mathematics ATs 1, 3 and 4.)
Tools and Equipment	- to select and apply the appropriate techniques and processes when using tools and equipment in a safe and accurate manner; - to recognise the purposes of a wide variety of tools and equipment, to understand their handling characteristics, and the basic principles upon which they work and to apply these to the task in hand with confidence and understanding when making; - to combine graphic media to achieve a desired effect.
Aesthetics	- how to predict and plan for achievement of specific aesthetic results in their own designing and making; - that specific aesthetic characteristics influence consumers and users in particular ways, such as the use of colour in packaging and interiors. (Also applying aspects of Mathematics ATs 10 and 11.)
Systems	- to analyse a system to determine its effectiveness, so as to suggest improvements or alternatives; - to identify the aspects of control in a system, including IT and use some of these aspects to design and make a viable outcome; - to produce valid representations that and simplify existing systems. (Also applying aspects of Science ATs 10, 11, 12 and 13.)
Structures	- to use their knowledge and understanding of materials and components to design and make structures which resist failure when stressed; - how to test existing simple structures to determine performance; - how to recognise and represent organisational structures, eg. simple bridges or buildings, a computer program. (Also applying aspects of Science AT 10.)

Mechanisms	- the principles of mechanisms so as to use calculations, including ratios, to predict their operations when designing and making; - to select and use appropriate mechanisms when designing and making devices to convert motion from one form to another; - how to control mechanisms; - to recognise and use forces including friction and dynamic forces when designing. (Also applying aspects of Science ATs 10, 11 and 13.)
Exploring and Investigating	- to design through exploration and analysis of contexts to identify needs and opportunities; - to gather, select and organise relevant information so that it can be used throughout the designing activity; - how to apply information to any specific task; - that exploration and investigation are activities which are used through designing and making. (Also applying aspects of Science ATs 1 and 12, Mathematics ATs 1, 9, 12 and 13, and Information Technology AT.)
Imaging and Generating	- to maintain a questioning, but open-minded approach when developing design and technological ideas and proposals; - to use imaging to generate and develop their ideas systematically, using techniques, such as brainstorming, deriving from an analysis of function and the exploration of form, combining existing concepts in new ways.
Modelling and Communicating	- to use specialist modelling techniques for their design and technological ideas and proposals, recognising that they have been developed to match the requirements of production in the various fields of design and technology, such as basic one and two point perspective, orthographic and axonometric projections, models and prototypes, toiles and quarter scale garment models, basic mathematical models. (Also applying aspects of Mathematics ATs 12 and 13.)
Organising and Planning	- to generate a written plan for their work, which includes the physical resources required and a proposed time schedule, eg. preparing a plan for a meal or the realisation of an artefact; - to analyse the task and sub-task involved, and to develop logical methods of proceeding while designing and making; - to modify the plan as a result of progress, giving justifications for the changes.
Making	- how to use tools and equipment to work materials with sensitivity in order to develop good crafts skills, when designing and making; - how to achieve an acceptable degree of quality in their work with respect to accuracy and finish; - that making requires the proper matching of materials, media and components with tools, equipment and processes; - to identify and use machines where such use is likely to be more effective; - to recognise when it is necessary for them to acquire a new making skill; - how to estimate the time and an activity will take; - to select and then use appropriate methods of assembling materials and components when designing and making.

Appraising	- to appraise in detail, using criteria, the procedures and outcome of their designing and making activities; - how to appraise artefacts, systems or environments created by others; - to use, in their own work, information and experience gained from appraisal of products.
Health and Safety	- to take responsibility for the working environment, ensuring it is well ordered and safe and that tools and equipment are well maintained; - how to deal with accidents which occur; - to become increasingly aware of health and safety hazards in the home and community.
Social and Environmental	- to investigate and analyse the effects of design and technological activity on the environment; - to recognise the relationship and potential conflicts between the needs of individuals and the need of society, especially in a culturally diverse society; - to recognise and understand that economic, moral, social and environmental factors can influence design and technological activities. (Also applying aspects of Science AT 16.)

STATEMENTS OF ATTAINMENT - LEVEL 7

AT 1

Investigate contexts in a systematic way, demonstrating that they have varied their methods as appropriate until essential information has been acquired.

Identify and draw upon expert sources of advice relevant to the identification of needs and opportunities for design and technological activities (eg writing to businesses or visiting workplaces, asking appropriate specialist teachers, consult texts).

Analyse information of several kinds (eg scientific, technological, mathematical, aesthetic, economic, social, environmental) and draw conclusions from this about needs and opportunities for design and technological activities, recognising and resolving conflicting considerations (eg by an analysis of costs and benefits).

Apply a broad range of knowledge about the consumer/user and business and industrial considerations, such as prices, costs and benefits, competition and consumer appeal.

AT 2

Record how they have generated the diverse range of their ideas which they have used to develop their design proposal.

Seek out, systematically appraise and use information derived from appropriate sources (eg historical and cultural ones) to develop and combine ideas and judge how realistic they might be.

Review the detail of their chosen design, in the light of their own experience and that of others, and suggest upon alternative ways of achieving what is required.

Apply relevant criteria including user requirements, costs, time, skill demands and aesthetic considerations, in order to take decisions about the details of the design proposal.

Produce an appropriately detailed design proposal recording their decisions and the means of making their chosen outcome, (eg through appropriate drawing methods, patterns, instructions, anthropometric models)

AT 3

Demonstrate competence in the use of a wide variety of generic skills associated with making (eg measurement, marking out, use of media, finishing) chosen on the basis of their understanding of the materials, components, tools and equipment involved, and of the intended scale of production towards which they are working (eg prototype, one-off, batch).

Plan and implement working procedures to match the various constraints on making (eg deadlines, cash flows) to overcome problems and to achieve an outcome of the desired quality.

Use a range of technical, symbolic and other modes of representation to assist in planning, organising, making and, where appropriate, incorporating modifications.

AT 4 Present an appraisal of the identified needs or opportunities, and of the processes, outcomes and effects of their design and technological activities. This should draw upon information which they have systematically gathered about the characteristics of the product and about the reactions to it of users, including considerations such as effectiveness in use, value for money, style and fashion. The appraisal should incorporate suggestions for improvements.

PROGRAMME OF STUDY FOR LEVEL 7

At level 7 pupils should develop design and technological capability through activities:

- which each involve all the attainment targets, and which are always purposefully developed in response to perceived needs or opportunities;
- which have differing focuses, some demanding the need to work to a given specification, others where they develop their own task for identified needs or opportunities;
- which include one extended design and technological task, for example, with a duration of between twenty four and thirty six hours, and at least two shorter tasks;
- which develop confidence in designing and making and allow them to take increasing responsibility for the form and nature of their work;
- which enable them to seek out and apply knowledge, skills and values in a constructive and purposeful manner;
- which offer opportunities for open-ended research leading to identification of their own tasks for designing and making from within given contexts;
- which allow them to appraise, in some depth, artefacts, systems or environments created by others;
- which broaden and deepens the awareness and understanding of design and technology;
- which involve opportunities to work outside school;
- which foster enterprise and initiative;
- undertaken individually and in groups which develop personal qualities, necessary for successful design and technological work.

To achieve level 7 across the attainment targets pupils should be taught:

Materials and Components

- a working knowledge of the properties and characteristics of a range of materials, media and components;
- to recognise the suitability of materials and components for modelling prototypes;
- that the optimisation of the selection and subsequent use of materials, media and components may require knowledge and appraisal of: physical properties, eg. thermal conductivity, resistivity and strength, availability, cost, forms, the feasability of their transformation, facilities available and the intended outcome;
- how to join or assemble a range of materials and components in permanent and semi-permanent forms;
- to identify suitable finishes and apply them to materials. (Also applying aspects of Science ATs 6 and 11.)

Energy	- how the release and transfer of energy can be controlled by systems, eg. domestic central heating, power distribution in the national grid; - to distinguish between renewable and non-renewable sources of energy; - to take account of energy efficiency in evaluating the product of technological activity. (Also applying aspects of Science ATs 10 and 13.)
Business and Economics	- the ways in which market research can be used to evaluate user requirements and market potential; - to recognise the issues of cost, income, quality, environmental impact and human need when determining an appropriate combination of labour, finance, materials and equipment; - to calculate and relate costs and revenues in order to make decisions on price and volume, eg. break-even analysis; - the importance of people as a resource and the need to bring together, train and organise individuals with appropriate expertise and potential. (Also applying aspects of Mathematics ATs 1, 3 and 4.)
Tools and Equipment	- to select the correct tool and equipment from those available to create an outcome of quality; - to plan sequences so that tools, equipment and machines can be used safely and effectively; - that safe procedures are paramount and require vigilance by all parties before, during and after manufacture; - that the capacities and limitations of tools, equipment and machines, impose constraints, which must be managed, when designing and making; - to manufacture effectively from a range of materials; - to assemble components using appropriate tools and equipment; - to use computer systems as a tool for designing and making.
Aesthetics	- how to relate their understanding of aesthetics characteristics to people's values and needs by realising the potential of materials, processes, tools and equipment in their own work and the work of others; - how to make use of data concerning human scale and proportion, when designing. (Also applying aspects of Mathematics ATs 10 and 11.)
Systems	- that systems are designed within specific boundaries, eg. transport and distribution systems within a retailing organisation; - how feedback from outputs can be used to control sub-systems, recognising the presence and effect of lag; - to use IT and where appropriate sensors, to monitor and control a system, eg. security system or temperature control system; - to design and make systems, including open loops and closed loop systems. (Also applying aspects of Science ATs 10, 11, 12 and 13.)

Structure	- that load bearing structures rely on distinctive elements, such as beams, columns, arches and cantilevers; - to design and make structures that accommodate static and dynamic loads, using rigid and flexible materials as appropriate; - that there are a range of forces related to structures, such as compression, tension, bending, torsion and shear, which have to be brought into equilibrium; - that organisations can be described as structures, and representations of these for business, industrial, home and social circumstances can be developed and communicated. (Also applying aspects of Science AT 10.)
Mechanisms	- that efficient mechanisms depend on the appropriate choice of materials and components; - to use linkages and gearing mechanisms to bring about changes in features, such as direction of motion, speed and torque; - how the efficiency of a mechanism can be calculated and maximised when designing a product; - how to design mechanical systems to produce a desired output from a given input. (Also applying aspects of Science ATs 10, 11 and 13.)
Exploring and Investigating	- to devise an effective research strategy for investigating a specific context; - to collate, sort, analyse, interpret and present information in a logical and coherent way; - to explore a range of potential solutions before choosing one solution for completion; - to investigate existing solutions to design and technological problems before formulating new solutions. (Also applying aspects of Science ATs 1 and 12, Mathematics ATs 1, 9, 12 and 13, and Information Technology AT.)
Imaging and Generating	- to stimulate the imagination by critical analysis of relevant alternative solutions to similar needs and opportunities; - to interact with groups of peers and be sensitive to their views as a way of generating ideas; - to know how other designers and technologists have generated ideas and to make use of similar approaches, when designing and making.
Modelling and Communication	- to distinguish between various techniques of modelling and to use the appropriate techniques for ideas, testing and communicating proposals and solutions; - to develop their personal preferences and abilities from a range of modelling media, processes and techniques; - to use anthropometric diagrams and models; - to use computer aided design and draughting techniques. (Also applying aspects of Mathematics ATs 12 and 13.)
Organising and Planning	- to set objectives and identify resources and constraints; - to identify those tasks which depend upon the successful completion of previous tasks; - to estimate the time taken to complete each task in the activity; - to prepare a flow chart of activities;

Making	- that it is important to create a satisfactory working environment and establish good working relationships while making; - to organise their use of time and resources to complete the task in the time available; - to work efficiently in an ordered and organised manner; - to manipulate materials with tools and equipment in a sensitive manner, while developing good craft skills; - to work to an appropriate degree of accuracy for the task; - to assemble, using a variety of techniques and processes, materials and components; - to provide a good finish on products that they have designed and made.
Appraising	- to recognise objective and subjective information when designing and making; - to use different ways of assessing the effectiveness of a solution; - how to evaluate the suitability of media, materials and components used in their solutions; - to work together to establish collective criteria for appraisal; - to evaluate progress in relation to the original plan, and to amend plans where necessary.
Health and Safety	- that products which they construct must be mechanically and electrically safe; - that efficient use of manufacturing tools and equipment results from observing and applying safe working practices; - to promote personal safety, eg. : by due regard to visible and audible warnings, : through the use of mechanical, electrical and microelectronic devices which provide protection.
Social and Environmental	- when designing account must be taken of the environmental impact; - to recognise the historical and cultural background to design and technological developments, and the implications of dealing with these changes when designing and making.

STATEMENTS OF ATTAINMENT - LEVEL 8

AT 1 Investigate contexts in carefully planned ways with explicit recognition of the stages of such investigations.

Compare and contrast contexts from history and other cultures with those they have investigated themselves in order to enhance their understanding of factors which influence needs and opportunities for design and technological activities (eg survival clothing for different parts of the world).

Provide a detailed evaluation in the light of a broad range of considerations (eg economic, social, moral, environmental, legal) of the identified needs and opportunities for design and technological activities.

AT 2 Record and present, using a range of appropriate methods and media (eg mock ups, sketches, notes, diagrams), the progression of their ideas; detail and refine their design proposal and incorporate modifications; use where appropriate computer aided design, image generation and desk top publishing techniques in exploring, detailing and refining their ideas.

Develop their ideas by exploiting a range of sources of information and justifying their selection of sources.

Plan their activities to take into account multiple constraints, (eg time, skills, making processes, information requirements), of which some may be conflicting.

Demonstrate a willingness to experiment and take risks within the limits of responsible designing (eg by using familiar materials in unfamiliar ways or situations).

AT 3 Demonstrate competence in the use of a wide variety of generic skills associated with making (eg measurement, marking out, use of media, finishing) chosen on the basis of their understanding of the materials, components, tools and equipment involved, and of the intended scale of production towards which they are working (eg prototype, one-off, batch) and display evidence of their knowledge of making processes and of associated standards of production.

Devise and implement procedures for quality control at various stages in the making process and of the final outcome.

Review different strategies that could be applied during making to optimise their use of materials, procedures, tools and equipment.

Identify and incorporate modifications which suggest themselves during making.

AT 4 Present an appraisal of the identified needs or opportunities, and of the processes, outcomes and effects of their design and technological activities. This should draw upon information which they have systematically gathered about the characteristics of the product and about the reactions to it of users, including considerations such as effectiveness in use, value for money, style and fashion. The appraisal should incorporate suggestions for improvements and include a discussion of:

i) the relationship between the materials and components chosen, on the one hand, and the procedures, techniques and processes used, on the other. Where areas of conflict have arisen, the means used to resolve them should be justified;

ii) justifications of possible improvements in terms of technical and aesthetic considerations, as well as other value judgements.

iii) a reasoned and supported estimation of effects and consequences, including where appropriate, environmental and economic ones;

iv) where relevant, the suitability for manufacture of the product.

Understand that artefacts, systems or environments reflect the circumstances and values of particular cultures and communities, and that what is regarded as appropriate in one situation is not necessarily so in another (eg community health care provision, design of places for religious worship, design of clothes).

PROGRAMME OF STUDY FOR LEVEL 8

At Level 8 pupils should develop design and technological capability through activities:

- which each involve all the attainment targets, and which are always purposefully developed in response to perceived needs or opportunities;
- which have differing focuses, some demanding the need to work to a given specification, others where they develop their own task for identified needs or opportunities;
- which include one extended design and technological task, for example, with a duration of between twenty four and thirty six hours, and at least two shorter tasks;
- which develop confidence in designing and making and allow them to take increasing responsibility for the form and nature of their work;
- which enable them to seek out and apply knowledge, skills and values in a constructive and purposeful manner;
- which offer opportunities for open-ended research leading to identification of their own tasks for designing and making from within given contexts;
- which allow them to appraise, in some depth, artefacts, systems or environments created by others;
- which broaden and deepens the awareness and understanding of design and technology;
- which involve opportunities to work outside school;
- which foster enterprise and initiative;
- undertaken individually by and in groups which develop personal qualities, necessary for successful design and technological work.

To achieve Level 8 across the attainment targets pupils should be taught:

Materials and Components

- to develop their working knowledge of the physical properties and characteristics of a range of materials and media;
- a working knowledge of a range of components including their properties and operational characteristics;
- to develop further their understanding and knowledge of how materials are shaped, joined and formed when designing and making;
- that when realising design proposals a choice exists between using materials only, readily available components, or materials and components in combination.

(Also applying aspects of Science ATs 6 and 11)

Energy	- how to transfer energy from one form to another safely and efficiently; - how to develop and use control systems to effect energy transfers, including electronic and computer control; - how to conserve energy loss through efficient systems, eg home, office, factory; - that energy is a major cost in manufacturing and service systems and that its use needs to be controlled. (Also applying aspects of Science ATs 10 and 13)
Business and Economics	- to review critically the ways in which market research can be used to evaluate user requirements and market potential; - how to develop an effective product and promotion strategy; - that external constraints and influences, such as legal, environmental, health and safety, have effects on business activity. (Also applying aspects of Mathematics ATs 1, 3 and 4)
Tools and Equipment	- that the capacities and limitations of manufacturing machines and available equipment impose constraints upon designing, which must be managed; - that the use of tools and equipment within manufacturing systems must take account of efficiency, convenience and personal comfort; - that within the limits of safety and efficient working, tools and equipment can be adapted to serve a variety of purposes; - how computer systems are used as a tool in both designing and making; - the role of IT in controlling machines and items of equipment; - that software packages are important in the development and testing of IT systems.
Aesthetics	- that aesthetic characteristics of products may produce different user responses; - to design artefacts or systems or environments with due regard for human scale and proportion, eg toys, playground equipment or furniture; - how to link form and function by the planned use of spatial relationships. (Also applying aspects of Mathematics ATs 10 and 11)
Systems	- that systems are designed within boundaries and judged against criteria related to the context for use; - to recognise that feedback is required by people to make a system operate and function effectively; - that social and business organisations may be described in terms of systems with boundaries, inputs and outputs; - to recognise and apply a range of IT systems used in areas, such as business, industry, education, leisure and communications; - to estimate the operating costs of a system and evaluate its efficiency. (Also applying aspects of Science ATs 10, 11, 12 and 13)

Structures	- that load bearing structures rely on distinctive elements, such as beams, columns, arches and cantilevers, and that the function of such elements is to resist tensile, compressive and shear forces; - that such forces and their effects can be calculated, using concepts, such as moments, and balance of forces; - to design and make structures economically and efficiently using flexible and rigid materials to support maximum loading; - the need for computer programs to be structured so that they can be developed and errors quickly found. (Also applying aspects of Science AT 10).
Mechanisms	- that the design of efficient machines and mechanisms must take account of frictional, structural and dynamic considerations; - how the efficiency of a mechanism, such as linkages and gearing, can be maximised and to apply this knowledge to their designing and making; - that mechanisms, being a sub-set of systems, can take various forms including mechanical, electrical, electromagnetic, fluid and pneumatic systems; - that situations involving management and organisation which can be represented as systems and structures can also be represented as dynamic mechanisms. (Also applying aspects of Science ATs 10, 11 and 13).
Exploring and Investigating	- to devise an in depth and effective research strategy for investigating a specific context; - to collate, sort, analyse, interpret and present information in a logical and coherent way to maximise its use when designing; - to explore an alternative range of potential solutions before choosing one solution for completion; - that exploration does not necessarily produce relevant information; - that a new solution may be invented which has no basis in existing solutions. (Also applying aspects of Science ATs 1 and 12, Mathematics ATs 1, 9, 12 and 13, and Information Technology AT).
Imaging and Generating	- to stimulate the imagination by critical and in depth analysis of relevant alternative solutions to similar needs and opportunities; - to sustain the processes of imagination and provoke further thoughts through the use of models and detailed analysis when designing; - to exercise determination and persistence in the pursuit and development of intuitive thought.
Modelling and Communication	- to use modelling techniques throughout their designing and making activities both to develop and record their thought processes and to communicate these with other people; - to relate choice of images to the likely response of audience and to be able to present their proposals to a range of specific audiences; - to use modelling techniques, such as diagrams, ranking, full-size mock-up models, as an aid to resolving conflicting requirements;

	- to use computer aided design, image generation and desk top publishing techniques to explore and exploit their ideas; - to use symbols and conventions that convey meaning to an international audience. (Also applying aspects of Mathematics ATs 12 and 13).
Organising and Planning	- to prepare a flow chart of activities and identify the critical path; - to prepare a detailed work plan to achieve the objectives - established in their design; - how to allocate tasks to other members of a team in a sensible and acceptable way.
Making	- the importance of creating a working environment which takes into account the limitations imposed by human scale, proportions and bodily movements; - to work efficiently and effectively in an ordered and organised manner; - to give attention to detail and work to an appropriate degree of accuracy for the realisation of the design; - to develop their ability to manipulate materials with tools and equipment in a sensitive manner, safely, accurately and effectively, showing good craft skills; - to recognise the role of Information Technology in giving variation and flexibility to manufacturing processes.
Appraising	- to recognise and handle objective and subjective criteria when making judgements, during designing and making activities; - to measure developments against budget plans; - to test each completed task or component to ensure that it functions according to the intention or the manufacturers specification.
Health and Safety	- that organisations need to have clearly defined procedures and responsibilities for health and safety; - the correct procedures for the disposal of waste and by- - products. (Also applying aspects of Science AT 11).
Social and Environmental	- to recognise the social and environmental issues arising from design and technological solutions; - to recognise the needs and values of individuals and groups from a variety of backgrounds, when designing for their diverse needs; - to recognise the interaction between the economic and social dimensions which affect design and technological activities.

STATEMENTS OF ATTAINMENT - LEVEL 9

AT 1 Formulate and deploy strategies for the investigation of less familiar situations (eg by transferring knowledge of how one system works to the exploration of another potentially similar system) and for the deeper investigation of familiar contexts (eg more focused research into the potential market for an established product).

Review their knowledge base in the course of an investigation of a new context, recognise the need for further knowledge, and exploit expert sources (eg a specialist database).

AT 2 As for Level 8 but also:

Detail and refine their design showing judgement in optimising practicable outcomes and, where appropriate, modify their original concept as a result of their detailing and refining.

Develop ideas by drawing on relevant information and understanding from a broad knowledge of sources, and showing judgement about the detail required.

AT 3 As for Level 8 but also:

Use their knowledge of a wide range of specialist conventions (eg iconic, symbolic, analogue models); and other means of communication (eg computer simulations) to assist making, to identify improvements and to justify what they are doing to particular audiences.

Demonstrate how they have overcome constraints and difficulties encountered during making in order to achieve an outcome of quality.

Make judgements about the quality and usefulness of their sources of advice and information.

AT 4 As for Level 8, but also:

Apply their knowledge and understandings derived from critical appraisal of their own design and technological activities, and draw upon appraisals by others to inform their own work.

PROGRAMME OF STUDY FOR LEVEL 9

At Level 9 pupils should develop design and technological capability through activities:

- which each involve all the attainment targets, and which are always purposefully developed in response to perceived needs or opportunities;

- which have differing focuses, some demanding the need to work to a given specification, others where they develop their own task from identified needs or opportunities;

- which include one extended design and technological task, with a duration of between for example, twenty four and thirty six hours, and at least two shorter tasks;

- which develop confidence in designing and making and allow them to take increasing responsibility for the form and nature of their work;

- which enable them to seek out and apply knowledge, skills and values in a constructive and purposeful manner;

- which offer opportunities for open-ended research leading to identification of their own tasks for designing and making from within given contexts;

- which allow them to appraise, in depth, artefacts, systems or environments created by others;

- which broaden and deepens the awareness and understanding of design and technology;

- which involve opportunities to work outside school;

- which foster enterprise and initiative;

- undertaken individually and in groups which develop personal qualities, necessary for successful design and technological work.

To achieve Level 9 across the attainment targets pupils should be taught activities:

Materials and Components

- a detailed working knowledge of the physical properties and characteristics of a range of materials and media;
- a detailed working knowledge of a range of components including their properties and operational characteristics;
- that the optimisation of the use of materials and components when designing and making, may require knowledge and appraisal of:-

  : their working and mechanical properties,
  : their operational characteristics,
  : their suitability for the intended environment;

- how to join and combine materials in permanent and semi-permanent forms and how to avoid unnecessary weakening. (Also applying aspects of Science ATs 6 and 11).

Energy

- how to conserve energy through efficient systems in, eg transport, the home and industry;
- to design systems, including those requiring the use of microelectronics and computers, to control effectively the transfer of energy. (Also applying aspects of Science ATs 10 and 13).

Business and Economics

- to undertake a critical review of the issues of cost, income, quality, time, environmental impact and human need and to advocate possible alternative strategies;
- to appraise critically finance and appropriate sources of funding when designing and making products;
- to recognise the economic implications of the widespread commercial or industrial application of their implemented designs;
- that external constraints and influences, such as level of economic development, government policy and international agencies, have effects on business activity. (Also applying aspects of Mathematics ATs 1, 3 and 4).

Tools and Equipment

- to manufacture effectively and efficiently;
- that the use of tools and equipment within manufacturing systems must take account of safety, efficiency, convenience and personal comfort;
- that within the limits of safety and efficient working, tools and equipment can be adapted to serve a variety of purposes, and that ancillary devices and fittings might be developed and used with them;
- that a manufacturing system can be realised from a group or set of items of equipment where the characteristics of each item are exploited;
- to use computer systems as a tool in designing and making.

Aesthetics	- how to use aesthetic characteristics to achieve specific results linking form and function with the influences of social and economic factors; - about some design philosophies and identify some of the specific ways in which these ideas have influenced the form of artefacts or systems or environments. (Also applying aspects of Mathematics ATs 10 and 11).
Systems	- to design and implement systems, within specified boundaries, in which control is maintained without the need for human intervention; - to recognise that people require feedback to make a system operate and function effectively and efficiently; - that when designing systems in which people operate, sensitivity is required at all times; - that the aspect of technological design which considers the user as an element within the control system is important for the success of that product. (Also applying aspects of Science ATs 10, 11, 12 and 13).
Structures	- the importance of creating efficient structures in terms of materials, construction, processes and the environment; - to make use of different jointing techniques, including fixed, loose and pivoted, when designing and making structures, eg pins, rivets, bearings, hinges and fabrics; - to design and make structures economically and efficiently using flexible and rigid materials to support maximum loading; - how to analyse relevant situations, including computer systems, to represent them as structures. (Also applying aspects of Science AT 10).
Mechanisms	- that efficient mechanisms depend on the appropriate choice of materials used, and the number, form and arrangement of their component parts; - to design and make efficient and effective mechanisms using the minimum quantities of materials and components; - that mechanisms can be treated as systems, can be incorporated within electrical, pneumatic and fluid systems, and can be controlled through computer and interface devices. (Also applying aspects of Science ATs 10, 11 and 13).
Exploring and Investigating	- to research in depth with sensitivity when investigating a specific context; - to explore in depth a range of potential solutions when designing, before fully developing one to completion. (Also applying aspects of Science ATs 1 and 12, Mathematics ATs 1, 9, 12 and 13, and Information Technology AT).
Imaging and Generating	- that the generation of many relevant ideas and the development of single insights can each provide starting points for development; - to apply imaginatively facts and principles from various disciplines, such as science, geography, personal and social education, in order to help in making decisions about design ideas and proposals.

Modelling and Communication	- to extend their use of specialist techniques of modelling when designing in specific areas; - how to prepare computer graphics for communication, analysis and development of design ideas; - that design and technological modelling and communication can be shared internationally irrespective of language differences. (Also applying aspects of Mathematics ATs 12 and 13).
Organising and Planning	- to prepare a detailed work plan to achieve the objectives showing responsibilities and deadlines, established in their design; - to set and build in standards against which performance can be measured and reviewed.
Making	- the importance of creating a satisfactory working environment which is flexible and takes into account human scale and the range of bodily movements involved; - to manipulate materials with tools and equipment in a sensitive manner, working ssfely, accurately, effectively and efficiently showing high quality craft skills when making; - how to achieve a degree of quality in their work to ensure that it is acceptable for its intended market or audience, with respect to effective communication, accuracy and accurate functioning, as well as appearance and finish.
Appraising	- to recognise, handle and balance the interplay between objective and subjective criteria when making judgements during designing and making; - to measure developments against budget, calculate variances and decide which variances are significant; - to investigate ways in which their solutions could be extended or enhanced to satisfy additional needs.
Health and Safety	- that products must be designed to allow for unusual eventualities during use and must be designed and built to embody residual performance capacity; - that producers must provide information to the users of a product. (Also applying aspects of Science AT 11).
Social and Environmental	- to explain the social and environmental issues arising from design and technological solutions; - to recognise, and have an appreciation of, the interaction between the economic and social dimensions with affect design and technological activities.

STATEMENTS OF ATTAINMENT - LEVEL 10

AT 1 As for Level 9 but also:

Elicit and interpret the perceptions motivations and needs of people in a range of contrasting situations (eg by reviewing the answers to a questionnaire from people of different ages and incomes).

Convey, using presentation techniques matched to their audience, (eg multi-media display for a parents evening) that their identification of needs and opportunities is fully justified and worth developing.

Make sound judgements about what is properly a subject for design and technological activities and what is more properly dealt with in other ways (eg by social or economic or political measures).

AT 2 As for Level 9 but also:

Provide a justified account of the full range of ideas they have explored and the strategies used showing:

i) evidence of the exploration of ideas used in existing artefacts, system or environments and their own innovative ideas;

ii) how they analysed their chosen proposal for purposes of refinement and detailing, predict with accuracy the outcomes of possible courses of action, resolved conflicting demands, and co-ordinate their decisions in a coherent specification using an appropriate range of media and methods (eg drawings, sketches, models, technical drawing and presentation techniques).

AT 3 Use a broad range of techniques, processes and other resources with confidence, safety and creativity to optimise the achievement of high quality outcomes.

Demonstrate how they have overcome constraints and difficulties encountered during making in order to achieve an outcome of high quality.

Review their design proposal in the light of constraints and difficulties encountered during making and show resourcefulness and adaptability in modifying their design and technological activities in order to achieve an outcome of high quality.

AT 4 As Level 9 but also:

Demonstrate through their choice of working methods and an instinctive discernment and flair in decision taking, the wide range and quality of their design and technological capability.

Appraise artefacts, systems or environments to show in general terms the interaction of influences (eg economic, political, moral, social) and use this knowledge in their own design and technological activity.

PROGRAMME OF STUDY FOR LEVEL 10

At Level 10 pupils should develop design and technological capability through activities:

- which each involve all the attainment targets, and which are always purposefully developed in response to perceived needs or opportunities;

- which have differing focuses, some demanding the need to work to a given specification, others where they develop their own task from identified needs or opportunities;

- which include one extended design and technological task, for example, with a duration of between twenty four and thirty six hours, and at least two shorter tasks;

- which develop confidence in designing and making and allow them to take increasing responsibility for the form and nature of their work;

- which enable them to seek out and apply knowledge, skills and values in a constructive and purposeful manner;

- which offer opportunities for open-ended research leading to identification of their own tasks for designing and making from within given contexts;

- which allow them to appraise, in depth, artefacts, systems or environments created by others;

- which broaden and deepens the awareness and understanding of design and technology;

- which involve opportunities to work outside school;

- which foster enterprise and initiative;

- undertaken individually and in group work which develop personal qualities, necessary for successful design and technological work.

To achieve level 10 across the attainment targets pupils should be taught:

Materials and Components

- a detailed working knowledge of the physical properties and characteristics of a range of materials and media;
- a detailed working knowledge of a range of complex components including their properties and characteristics;
- that the optimisation of the use of materials and components when designing and making may require knowledge and appraisal of:-

  : their suitability dependent upon methods, processes and scale of production,
  : the economic value and environmental costs for disposal of surplus, waste and by-product materials;
- a detailed knowledge of how materials are shaped, joined and formed;
- a detailed knowledge of how components are combined to create products.
  (Also applying aspects of Science ATs 6 and 11).

Energy

- that different sources of energy bring different benefits of cost, reliability and performance to a product or business and have a variety of social costs and benefits, which must be allowed for when designing.
  (Also applying aspects of Science ATs 10 and 13).

Business and Economics

- to develop an effective product, pricing, promotion and distribution strategy;
- techniques for planning an effective cash flow and budgeting system, using computer modelling, where appropriate, to evaluate options;
- to develop a critical awareness of the competitive processes which surround the development and application of inventions and the control of patents;
- to review critically and respond to the diverse and complex influences of the changing business and economic environments on design and technological activities.
  (Also applying aspects of Mathematics ATs 1, 3 and 13).

Tools and Equipment

- that investment in tools and equipment involves issues of financing, obsolescence and depreciation;
- to acquire tools and machinery where appropriate, which are not readily available for them to carry out the processes or operations that are required for their designing and making activities;
- to design and make tools or equipment, where appropriate, to aid them in the manufacture of their solutions;
- how to use computer systems as a tool in both designing and making products.

Aesthetics

- how to link aesthetic characteristics with the requirements of use and the constraints and opportunities of markets, costs and resources;
- to analyse artefacts or systems or environments by linking knowledge of design history with direct observation and personal interpretation.
  (Also applying aspects of Mathematics ATs 10 and 11).

Systems	- that an IT related system can be formulated, constructed and operated to process and transmit information and to establish control over another system; - to estimate the operating costs of a system and evaluate its efficiency in order to design for improvement; - to analyse business systems and organisational models. (Also applying aspects of Science ATs 10, 11, 12 and 13).
Structures	- that structures can be both elastic and inherently flexible even when using resistant materials; - how to test structures they have created using a range of appropriate equipment and techniques. (Also applying aspects of Science AT 10).
Mechanisms	- how to take into account the effects of energy, and a range of forces including frictional, dynamic and electromagnetic forces when designing; - to use suitable materials, components, and, where applicable, computer interfaces to achieve the optimum desired results, when designing and making products using mechanisms; - that situations involving management and organisation which can be represented as systems and structures can also be represented as dynamic mechanisms. (Also applying aspects of Science ATs 10, 11 and 13).
Exploring and Investigating	- to research in depth with sensitivity for investigation of a specific context; - to explore in depth, a range of potential solutions when designing, before fully developing one to completion. (Also applying aspects of Science ATs 1 and 12, Mathematics ATs 1, 9, 12 and 13, and Information Technology AT).
Imaging and Generating	- to make use both of intuition and quantitative data in forming design ideas and proposals.
Modelling and Communication	- how to integrate drawing, modelling and text into a sustained design and make activity; - how to interpret specialist design and technological vocabulary for a general audience; - that design and technological modelling and communication can be shared by people from different countries, and that congruence should not be assumed. (Also applying aspects of Mathematics ATs 12 and 13).
Organising and Planning	- to prepare a detailed work plan to achieve the objectives showing responsibilities and deadlines established in their design; - to build in standards against which performance must be measured and reviewed.

Making	- the importance of creating a satisfactory working environment which is flexible and takes into account human scale and the range of bodily movements involved; - to manipulate materials with tools and equipment in a sensitive manner, working safely, accurately, effectively and efficiently showing high quality craft skills when making; - how to achieve a degree of quality in their work to ensure that it is acceptable for its intended market or audience, with respect to effective communication, accuracy and accurate functioning, as well as appearance and finish.
Appraising	- to recognise, handle and balance the interplay between objective and subjective criteria when making judgements during designing and making; - to measure developments against budget, to calculate variances and decide which variances are significant; - to investigate ways in which their solutions could be extended or enhanced to satisfy additional needs.
Health and Safety	- that during the disposal of waste and by-products from design and technological activities, social, moral, legal and environmental responsibilities may be incurred. (Also applying aspects of Science AT 11).
Social and Environmental	- to explain the social and environmental issues arising from design and technological solutions and to respond to these issues with alternative solutions which meet social and environmental concerns; - to recognise the relationship and potential conflicts between the needs of individuals and the needs of society, and to communicate and negotiate with people having different points of view, to reach an agreement.

CHAPTER 3

INFORMATION TECHNOLOGY

3.1 The development of information technology is changing everyday activities both at home and at work. Whether by using a word processor, accessing a remote database from a cash dispenser or monitoring a production line controlled by a computer, people are using IT in a wide variety of ways to carry out tasks more easily and more efficiently. The impact of IT on the lives of individuals and on the economy will become greater as the extent and range of its use increase. It is therefore essential that as pupils leave school they are equipped to take advantage of the opportunities which IT provides and to understand the effects of its use.

3.2 Our broad approach to IT was described in chapter 3 of our Interim Report of November 1988 and has been strongly supported by the many organisations and individuals who responded and by those with whom we consulted. It involved:

- the identification of IT Capability - the ability to operate effectively and creatively with IT - as an essential part of the education of every pupil;

- the development of IT Capability through activities in all areas of the curriculum where the use of IT is appropriate;

- the need for coordination of pupils' IT experiences to draw out the knowledge, skills, understanding and values which make up IT Capability;

- a framework for assessment in which progression is shown by pupils' ability to apply IT appropriately and effectively to an increasingly wide range of tasks and to increasing levels of sophistication and complexity.

We also noted the importance of IT in enhancing learning at all

levels throughout the school curriculum and in providing opportunities for both independent and collaborative work.

3.3 IT features in many parts of the curriculum. Within the National Curriculum

- science has a complete attainment target on some of the scientific aspects of IT

- mathematics attainment targets include a number of tasks which are performed with the aid of IT

- English features information handling techniques where the use of IT is appropriate

We note below aspects of IT within design and technology. We expect that IT will also feature in the attainment targets and programmes of study for other foundation subjects as they are promulgated.

3.4 We were asked in our terms of reference to provide a focus within the National Curriculum for the development of computer and IT awareness and skills, "by recommending appropriate attainment targets at the four key stages together with a supporting programme of study related to IT and basic computer skills and to awareness of the uses of advanced technology."

IT CAPABILITY

3.5 We have identified five aspects of IT capability:

i. Developing Ideas and Communicating Information - the ability to use IT to develop ideas and to communicate information in a variety of forms, such as text, numbers, pictures, sound;

ii. Information handling - the ability to use IT to gather, organise, store, retrieve, modify, and present information;

iii. Modelling - the ability to use IT to model real or imaginary situations and to explore and develop such models;

iv. Measurement and Control - the ability to use IT to measure physical quantities and to control movement and other effects;

v. Applications and Effects - the ability to make informed judgements about applications of IT and about their importance to the economy and the quality of life.

3.6 We do not consider it right to place all these aspects within a separate IT attainment target. As we noted in our Interim Report, IT forms an essential part of design and technology, both as a tool and as a product of some design and technological activities. When considering the grouping of the aspects of IT capability in paragraph 3.4 for assessment purposes, we concluded that measurement and control (iv. above) and the ability to make judgements about applications of IT (v. above) were more appropriately placed within the design and technology attainment targets and programmes of study. This does not imply that these aspects must be taught in isolation from the other three aspects.

3.7 We recommend that the remaining aspects of general IT capability (i-iii above) should be grouped within a single attainment target, entitled Information Technology. We summarise this attainment target as follows

> Pupils should be able to use IT appropriately and effectively to communicate and handle information in a variety of forms and for a variety of purposes and to design, develop, explore and evaluate appropriate models of real or imaginary situations.

3.8 In our Interim Report we noted the current wide variation in the knowledge and expertise of teachers, the wide spread of

ability among pupils and the differences in the level of equipment provision between schools. We have borne these factors in mind in preparing our recommendations which we consider realistic and within the reach of all schools. When taken together with the requirements for the use of IT in design and technology and other foundation subjects they should lead to a significant increase in the IT capability of pupils. We envisage, however, that our recommendations will have a brief span. As the level of expertise and confidence among teachers grows alongside the increased provision of equipment, the attainment target and programme of study will need to be revised.

3.9 For the present, our aim is to ensure that all pupils have a firm foundation of general IT skills which can be developed through their work in subjects across the curriculum so that

- during the first two key stages pupils should develop an awareness of the variety of applications of information technology and the ability to use some of these applications in their own work.

- by the end of the fourth key stage most pupils should be able to recognise where the use of IT is appropriate, to apply IT effectively in a variety of situations and to evaluate the effects of IT applications.

3.10 We have aimed to build a steady progression in each of the three aspects within the attainment target for IT.

i. <u>Developing ideas and communicating information</u> We recommend that pupils at Level 1 should know that IT can be used to present various sorts of information - text, number, images or sound. Pupils should start to be assessed on their use of IT for these purposes at Level 3 and proceed through increasing levels of complexity so that at Level 7 they are able to combine the various aspects of information into a report and shape it for different purposes or for a variety of audiences.

ii. Information handling We recommend that pupils should be introduced to the use of databases at Level 3, starting with a prepared database and proceeding with increasing complexity through to Level 9 at which pupils are expected to understand fundamental aspects of information storage and retrieval systems and be able to put this knowledge to effective use.

iii. Modelling We recommend introducing pupils to the idea of modelling real or imaginary situations on a computer at level 5, progressing to Level 10 where they should be able to analyse the requirements of such a model and design and test it in use.

We also recommend that pupils should be required to review their continuing experience of using IT and consider parallel applications in the outside world.

KEY STAGE FOUR AND GCSE IN INFORMATION SYSTEMS

3.11 By the end of the third key stage we expect that the great majority of pupils will have acquired a firm basis of knowledge, skills, understanding and values in IT capability. In the fourth key stage, we anticipate that many pupils will wish to develop their IT capability in an increasingly broad range of tasks and to undertake more advanced work in the design, use and appraisal of information systems. In particular, this will involve pupils making explicit the principles and processes used in developing effective information systems, whether their own or other contemporary applications inside or outside the school. On this basis we recommend that pupils should be able to take a GCSE in Information Systems which could involve

i. work at the higher levels of the statements of attainment for IT, including a range of activities in at least two contrasting areas of the curriculum, such as history and science;

ii. work at the higher levels of the statements of attainment for design and technological capability in tasks which involve information technology based

measurement and control and the development and effects of information systems;

iii. a project such as the identification of a need or opportunity for information processing, and the design, development, documentation and evaluation of an appropriate and effective information system, which will relate to work in a foundation or other subject.

EQUAL OPPORTUNITIES

3.12 The opportunity to experience IT and to develop IT capability is an entitlement of all pupils, essential to their full development as individuals and as informed citizens. This applies to pupils with special educational needs as much as to other pupils; indeed for very many SEN pupils IT plays a vital part in making possible or enhancing active participation in other areas of the curriculum. We therefore do not see any reason for general exemption of pupils from the requirements of IT capability apart from the most exceptional individual cases.

3.13 Our recommendations for IT capability provide equal opportunities for all pupils regardless of gender and of ethnic, cultural or linguistic background, and our remarks on this in relation to design and technological capability (1.xx - 1.xx) apply equally here. It is true that specialist courses in computing have, in the recent past, been chosen more by boys than by girls, but we do not feel our recommendations give any support for this. Rather, by ensuring that all pupils develop IT capability throughout their compulsory education, any choices made will be based on experience and informed judgement, and not on a stereotyped image of an unfamiliar subject.

ATTAINMENT TARGET, STATEMENTS OF ATTAINMENT AND PROGRAMMES OF STUDY

3.14 We set out below our recommendations for the IT attainment target, the statements of attainment and the programmes of study for each level specified by TGAT. The

examples in italics serve to illustrate the statements of attainment and programmes of study and would not be statutory.

ATTAINMENT TARGET AND STATEMENTS OF ATTAINMENT : **INFORMATION TECHNOLOGY**

Pupils should be able to use IT appropriately and effectively to communicate and handle information in a variety of forms and for a variety of purposes and to design, develop and evaluate appropriate models of real or imaginary situations.

Pupils should:

LEVEL 1

know that IT can be used to present information in a variety of forms, such as text, number, images or sound, eg the use of an overlay keyboard or mouse to construct a simple story as a sequence of words, pictures or sounds.

LEVEL 2

know that IT can be used to store and retrieve information, eg the use of programmable toys or other equipment to produce effects such as sounds, the use of a simple wordprocessor to store short sentences and retrieve them later.

LEVEL 3

be able to

use IT to create, amend and present information, eg use a word processor to draft a diary of a school visit; use IT resources to create music and replay it in conjunction with voices or conventional instruments.

enter select and retrieve information in a database whose structure has been prepared in advance, eg enter data for a traffic survey, check it and retrieve it to compare the numbers of cars, lorries, bicycles on different days.

LEVEL 4

be able to

use IT to retrieve, develop and organise previously stored information, eg produce a newsletter, an information screen, a picture or a piece of music.

amend and add to information in an existing computer database, to check its plausibility and interrogate it, eg store information about themselves (hair colour, eye colour), check that their own information is stored correctly and use the information to test ideas and detect patterns (relationship between height, weight and shoe size).

review their experiences of using IT and consider parallel applications in everyday life, eg library database of books on loan; overlay keyboard used in fast-food shops.

LEVEL 5

be able to

use IT to present information, eg text or images, in a variety of forms for specific purposes, eg a newspaper or magazine for parents or other pupils

use a suitable software package to create a computer database by which a set of data may be captured, stored and retrieved, eg in order to form and test hypotheses concerning abnormal incidence of deaths within the local parish as part of an historical study in order to explore information from a survey of the prices of goods in local shops and markets.

explore a computer model to find out how the rules governing the model work, and construct a simple set of instructions to form a procedure, eg explore an adventure program which includes an element of randomness; produce an overlay map of a watermill the class has visited; build a function machine as part of

mathematical work; write a LOGO procedure to produce repetitive patterns on the screen.

LEVEL 6

be able to

use IT to combine and organise different forms of information, eg text, graphics or sound, for a presentation or a report to a given audience, eg produce a report which has visual impact and involves sensitive use of fonts, letter sizes, highlighting and appropriate layout of text and illustrations.

identify facilities and limitations of database software and other packages (eg spellchecker or graphics package) and recognise circumstances in which these facilities offer appropriate solutions to a problem of data handling.

identify the circumstances in which it is appropriate to use a database or other software package for a particular task as compared with other means of information handling, eg discuss various factors affecting the cost of obtaining information for a specific task, including the time, expertise and effort involved; consider the usefulness of a computer aided design package to explore the ergonomics of a kitchen design.

vary the data and the rules used within a simple computer model and assess the outcomes, eg define or change the way information is grouped into columns in a spreadsheet showing nutrient values in various types of meals; modify a LOGO procedure or its parameters to draw a variety of shapes and transform them.

review their experiences of using IT and consider other parallel applications and their impact on everyday life, eg bar codes used to facilitate automatic stock control in supermarkets; computer produced bills or personalised mail, and the implications of access to personal information.

LEVEL 7

be able to

select appropriate software and use it to produce presentations or reports which combine different forms of information in a well organised way to fulfil specific purposes for a variety of audiences, eg produce a presentation combining graphics and text

interrogate a range of computer databases organised in different ways to obtain accurate and relevant information needed for a particular task; e.g make sensible use of a large database about career or FE courses, and refine techniques of enquiry to select only relevant information.

construct and use a specified computer model of a situation or process and create computer procedures involving many variables. eg model the performance of certain companies' shares over a period, design a system to encode and decode messages

LEVEL 8

be able to

design a means of collecting information for a database which reflects the purpose for which it is being collected and the kinds of analysis to which it will be submitted, eg design and refine a valid and unbiased questionnaire for collecting complex data in a form suitable for analysis by computer.

select and use suitable software to capture and store data, taking account of retrieval, ease of subsequent analysis and the types of presentation required, eg select and use hierarchical database or viewdata software to provide user friendly information in a hierarchical manner about local amenities.

use suitable software, eg a mathematical package or a programming language, to represent a given situation or a process involving several variables and the relationships between them. Eg model and investigate the growth of bacteria;

use a graph plotting program to find a curve which fits a given set of experimental data.

LEVEL 9

understand the elements of how information is stored, organised, retrieved and transferred by computer systems, and some methods by which such information may be reliably communicated, including techniques used to reduce the incidence of errors.

be able to appraise a software package and a computer model of a complex situation, analysing the situations for which they have been developed, assessing them in terms of their efficiency, ease of implementation and the situation for which they have been developed; and suggest possible refinements.

be able to design and implement a system for others to use which provides clear and straightforward ways to identify and use the various facilities of the system, and produce suitable accompanying documentation, eg develop a hierarchical menu and help system to assist access to a collection of software; identify a situation in local business or industry where development of an information system would bring benefits and develop a proposal or a suitable solution.

LEVEL 10

be able to analyse the requirements for modelling a real system and design, implement and test such a system, justifying methods used and choices made, eg develop a system to aid the management of assessments and pupils' records of achievement in a school and produce suitable reports and summaries; develop a system for monitoring the performance of a central heating and hot water system in order to plan an efficient system for a house or school.

INFORMATION TECHNOLOGY: PROGRAMME OF STUDY

Pupils should be taught:

Level 1

that information can be held in a variety of forms (eg text, number, sound, images) through experiencing such forms recorded and communicated using information technology.

Level 2

that software can be used to store modify and retrieve information in the form of text, number, images and sound.

Level 3

how to use software packages to create, modify and present information with care and with reasonable fluency (eg how to create and amend text using a wordprocessor, how to create images using graphics or art packages, how to create music using a music package, how to represent number using a maths package).

how to locate where information is stored within a database structure, how to retrieve specific information from an existing database and add relevant information to it; how to check the accuracy of entries in a database.

Level 4

how to locate stored information, access and present it appropriately (eg retrieve text and amend it through moving it in a wordprocessing package, or retrieve an image and amend it using graphics facilities, or replay musical work and change it to improve the quality).

how to expand and amend information in a computer database, how to access it and how to consider the correctness of the procedures which they have adopted by looking at the outcomes.

how to review their use of IT applications and to consider related applications in the outside world.

Level 5

how to re-work and re-form existing information to edit it into the required new format, (eg a newspaper, an information screen, a message to a remote receiver) taking account of the likely audience response.

how to collect and organise information in a form suitable for entry on a database.

to analyse the patterns and relationships within a computer model to establish how its rules operate, eg look at the way an adventure game responds to options the user has chosen.

how to write a simple computer program to achieve a particular outcome, eg instructions to operate a simple database package, a LOGO program to draw a street of houses.

Level 6

in making presentations and reports, to identify clearly the requirements and to make appropriate use of IT equipment, software and techniques, for example, combining text and images in different ways for a newspaper report and a poster; composing and playing music to a class.

how to assess what particular software packages can and cannot do, the circumstances under which it is appropriate to use them compared with other forms of holding and assessing information (eg books, telephone directories), taking account of the cost, time, effort and expertise involved.

how the data and rules of a computer model can be modified in order to discover the effects of changing the assumptions underlying the model.

to review and discuss their use of IT applications and to consider related applications in the outside world and their impact on daily life.

Level 7

how to combine graphical and numerical information (eg from a spreadsheet), images, (eg from a design package) and text in an appropriate way for a variety of audiences.

that outcomes are affected not only by incorrect data or inappropriate procedures, but also by limitations in the methods of data capture and the techniques of enquiry used to retrieve information.

how to translate an enquiry expressed in ordinary language into forms required by information retrieval systems.

how to use search methods to interrogate a database to secure accurate and relevant information.

how to design and develop a computer model or a procedure to fulfil a specific purpose.

Level 8

to make explicit the purpose for which information is required and the types of analysis required and to take these into account in designing the means of collecting and organising the information, e.g use items of information such as name, date of birth, address as a means of sorting and use suitable software to represent the relationships between items of information.

to use a range of information handling software to capture, store, retrieve, analyse and present information in a variety of ways to suit particular needs.

Level 9

the elements of how information is stored, organised, retrieved and transferred by computer systems, and some methods by which such information may be reliably communicated within and between such systems, including techniques used to reduce the incidence or errors.

that there are ways of linking subsets of data, such as hierarchical structures, and that the choice of data structure affects representation of a situation on a computer.

how to evaluate general methods of searching and sorting data manually and with the help of a computer.

that the mathematics underpinning a computer representation of a situation or problem determines how accurately the model reflects reality, e.g. a program to trace the trajectory of a tennis ball, a spreadsheet to anticipate trends in predator/prey populations.

how to analyse a situation or problem, and then design, implement, assess and refine a complex model to represent the situation or to help solve the problem.

Level 10

the nature and purpose of the relational approach to data storage and how and when it should be used.

to analyse real systems which are to be modelled using IT, to make appropriate choices in designing, implementing and testing the model, and to justify the methods they have used.

ASSESSMENT OF DESIGN AND TECHNOLOGY AND INFORMATION TECHNOLOGY

Introduction

4.1. The Secretaries of State have stated that the broad framework for National Curriculum assessment and testing will be that advocated in the main report of the Task Group on Assessment and Testing. Specifically, the Government have accepted TGAT's general recommendations that:

i. assessment should be by a combination of national external tests and assessment by teachers; and that at age 16 the GCSE should be the main form of assessment, especially for core subjects;

ii. the results of tests and other assessments should be used both formatively to help better teaching, and to inform decisions about next steps for a pupil; and summatively at ages 7, 11, 14 and 16, to inform parents about their child's progress;

iii. in order to safeguard standards, assessments made by teachers should be compared with the results of the national tests and with the judgement of other teachers.

4.2. Within this framework, many detailed issues have yet to be resolved. For example, the precise relationship between the national external tests and assessment by teachers (i above) needs to be clarified; as do the details of the proposed moderation arrangements (iii above). The School Examination and Assessment Council (SEAC) will be considering these and other issues as part of its remit to advise on "the development, implementation and operation of the assessment system ....".

4.3. It is against this background - general principles clear, but key points of detail still to be finalised - that we have considered our remit, in relation to design and technology, to:

> "Offer advice in broad terms about assessment and testing in relation to the attainment targets recommended, and what might appropriately be measured by nationally prescribed tests".

ASSESSMENT OF DESIGN AND TECHNOLOGY
Standard Assessment Tasks (SATs)

4.4. We have considered first the scope for assessing design and technology, in terms of the attainment targets we have recommended, by nationally prescribed tests - standard assessment tasks (SATs) to use TGAT's term. Within the TGAT report a SAT is identified as a formal procedure for evaluating aspects of an individual's knowledge, skills and understanding, designed to provide standardised, ie nationally comparable, assessment results. The TGAT report makes clear that "the range and scope of standardised assessments that can be used to perform this role is far wider than the term "test" is usually taken to imply" - in terms of presentation, operation and response. It is envisaged in TGAT's report that different kinds of SATs may be required at different reporting ages and for different subjects.

4.5. In considering the assessment of design and technology, a number of factors need to be taken into account. First and foremost is the nature of design and technological activity. We have emphasized that this is integrative, meaning that the various aspects of it (e.g. exploring, modelling, appraising) are continuously interacting with and influencing each other. It is important, therefore, that any assessment instrument respects, and does not distort the nature of this activity.

4.6. Second, in contrast to some other school subjects where pupils can work towards an agreed "right answer", there are always several possible solutions to a design and technology

task. Assessment in this area of the curriculum must, therefore, not oblige pupils to work towards a single predetermined outcome, but must allow, even encourage, them to develop their own responses to a task.

4.7. Third, although knowledge, skills and values are essential resources, it is their application and use in relation to a particular design and technology task which is crucial. Assessment, therefore, needs to be directed not to knowledge, skills and values in isolation, but to their deployment in action and interaction in the course of design and technological activity.

4.8. These requirements amount to a powerful argument for assessment of design and technological capability to be based on the whole tasks which pupils carry out in their design and technology lessons. Anything less than this, for example a test of pupils' understanding of a body of knowledge or their ability to exercise a skill, independent of the context of specific design and technology tasks in which pupils are engaged, would lose validity. Similarly, attempts to test the achievement of individual ATs, as isolated components of design and technological capability, would be open to the same objection.

4.9. The points in 4.5 - 4.8 above apply equally to internal assessment by teachers and to external standardised assessment. In the latter case, however, there needs to be some means of minimizing sources of unreliability in the assessment and of ensuring an acceptable measure of comparability between the achievements of pupils.

4.10. We have explored a number of possible approaches to the setting of SATs which meet these requirements. Our preferred solution is one in which the assessment is based on a task undertaken as part of the normal progression of the pupil's work in the pupil's design and technology curriculum. We do not favour a "bank" of externally established standard tasks which may limit the pupil's chance to identify needs and opportunities.

4.11. The assessment criteria will be based on the attainment targets and programmes of study. In particular

- the context in which the task is undertaken must be one of those covered in the attainment targets (home, school, recreation, community, business and industry)

- the task should have as its main outcome an artefact, system or environment

- the task undertaken by a pupil should not be in the same context or involve a similar outcome as a task which the pupil has recently carried out

4.12. SATs of this type would be assessed by the teacher with reference a prescribed marking scheme based on the detailed statements of attainment and the various components of the programme of study for each level.

4.13. An important benefit of adopting the approach to standardised assessment tasks which we have outlined is that the involvement of teachers in the process will constitute a powerful form of in-service training. The assessment criteria will be seen as representing a model of excellence in design and technological capability which can only be beneficial to the work of teachers and pupils alike.

4.14. While we are clear that the model of a SAT which we have described is the one which is most compatible with our approach to design and technology, we believe it could be supplemented in useful ways by some more narrowly focused SATs which did not necessarily involve pupils in practical activity over an extended period of time. Such SATs could be used to assess performance against certain aspects of all four attainment targets, but would not cover all the statements of attainment, particularly those concerned with "making" in AT 3. They could be provided however in the areas of task definition, design development and planning and appraisal.

4.15 We offer here three examples in the area of appraisal:

- product appraisal, using 'product' broadly to cover artefacts, systems or environments, including prototypes, might be undertaken by pupils as an assessment task.

- appraisal of the historical and cultural influences on a product might provide a specific focus for assessment.

- understanding of the strategies and concepts characteristic of design and technology, including the importance of reflection on practice. (This would be an appropriate focus for a SAT at the higher levels where these dimensions are included in the statements of attainment.)

Internal Assessment

4.16. Teachers' own assessments will have an important role to play. Where teachers are working effectively in teams, considerable internal moderation will be possible and therefore external moderation need not be extensive.

4.17 Most primary teachers are well used to project work. The main challenges to teachers at this level will be to identify the design and technological aspects of pupils' work and to observe carefully the progress which individual pupils are making and keep systematic records of their assessments.

4.18. For secondary schools, the main challenge for teachers will be to ensure that assessment takes account of the continuously interactive nature of the different stages of designing and making activities.

Standard Assessment Tasks

4.19 In making our recommendations for the IT attainment target and programme of study (Chapter 3), we emphasised the importance of IT knowledge and skills being taught within a relevant context. For 5 to 16 year olds, this is likely to mean in the context of their work in a range of curriculum subjects. Some schools have already developed good practice in IT in a wide range of subjects. Other schools are less advanced and are limited by lack of suitable equipment or teacher expertise. This has implications for assessment. Although pupils should not be required to undertake IT SATs in all subjects of the curriculum, they should have the opportunity to be assessed on the IT attainment target in any of the foundation subjects. In this way, schools will be able to choose the SAT set in the context of those subjects in which there is IT expertise in the school and in which pupils have been taught their IT skills and knowledge. In order to ensure, however, that the full range of IT capability is assessed, we suggest that pupils should be required to take SATs which cover the IT attainment target in maths or science or design and technology and in English or geography or history.

Internal Assessment

4.20. As with all foundation subjects in the national curriculum, schools will need to ensure that a proper record is kept of pupils' progress in IT. In the case of IT this will be particularly important where pupils are learning about the use of different aspects of IT in different subjects. We believe that at the secondary stage pupils themselves should carry some responsibility for maintaining a record of their work which might also form the basis for assessment at the end of Key Stages 3 and 4. Each pupil might, for example, keep a "diary" of the aspects of the programme of study that had been covered which would be endorsed by the teacher with whom the pupil had undertaken the relevant activity. At the end of each of the two key stages the teacher would assess the pupil's progress based on the endorsed

record in the "diary" against the statements of attainment in the IT attainment target, in addition to assessment through a SAT.

4.21. The scope for moderation within groups of schools is likely to be less than in other subjects, since schools are likely to have IT expertise in different subjects. However, we envisage that in each school there will be a teacher responsible for the overall coordination of IT in the school and he or she will have an important role to play in moderation arrangements between schools.

OTHER ASSESSMENT ISSUES IN DESIGN AND TECHNOLOGY AND IT

Aggregation

4.22. Within our attainment targets, each level of performance, on the 10 point scale, is defined by a number of statements of attainment. As we have explained in Chapter 2, the individual statements of attainment at each level are not free-standing. Between them they describe the dimensions or strands of capability which pupils should be capable of demonstrating at the level in question. That capability is described by the statements of attainment taken as a whole. It follows that a pupil cannot be said to have reached a level if there are wide variations in achievement between particular statements of attainment within that level. Specifically, a pupil should not be deemed to have reached a particular level on the basis of a strong performance against some statements of attainment offsetting a weak performance against others. (i.e. a pupil will not be deemed to have attained a level unless the pupil has reached that level on every statement of attainment.) We recommend that this should apply to both the attainment targets in design and technology and information technology.

Profile Components

4.23. Profile component is a term coined by TGAT to denote a grouping of attainment targets, to be used for reporting assessment results to parents and others, in order to make the business of reporting more manageable. We have recommended a

We have recommended a single profile component for design and technology called "Design and Technological Capability" and comprising our four recommended attainment targets, and a single profile component and attainment target for information technology. We have been asked to advise on how pupils' marks for those attainment targets individually might be combined to give a single mark for the subject.

4.24 Our strong view is that the design and technology and information technology profile components should be treated entirely separately for reporting purposes and not combined to give an overall mark for technology. As our terms of reference make clear, the information technology attainment target is a focus for the basic IT knowledge and skills developed across the curriculum. It is sufficiently important and distinct to warrant separate reporting.

4.25. We are not clear that it will be necessary or desirable to combine attainment target marks into a single profile component score for design and technology. We envisage that parents and employers will be interested in seeing the full profile of results, not an overall result, which by definition will be less informative. Clearly, for subjects which have numerous attainment targets other considerations will apply.

4.26. There will be some circumstances in which it will be necessary to express attainment target scores as overall results - for example for purposes of providing aggregate performance data at school, LEA or national level. In these circumstances, we do not recommend simple averaging of AT marks because of the potential for high scores against some attainment targets masking much weaker performances against others. We recommend an approach which requires some consistency of performance across all the ATs in order to qualify for an overall mark at a particular level. Specifically, we suggest two rules of combination. In order to achieve a particular level

- scores in at least 3 ATs must be at or above that level

- the lowest score must be no more than one level below that level

Thus, a pupil whose four AT scores are 2, 4, 5 and 6 would have achieved level 3; a pupil whose scores were 3, 3, 4 and 4 would also be level 3.

Assessment and Pupils with Special Educational Needs

4.27. We recommend in paragraphs 1.32 - 1.43 above, some broad measures which should be taken to enable SEN pupils to participate in design and technology. We recommend that similar measures are taken with regard to the assessment of SEN pupils.

4.28. First, where pupils with particular disabilities have difficulty with communication which prevents them from achieving an attainment target in the normal way, some modification of the assessment procedures should be made in the same way as described in paragraphs 1.37 and 1.38.

4.29. Second, where pupils with particular disabilities have difficulty with "making", the assessment task should be adapted to allow a choice of product, whether artefact, system or environment.

4.30. Third, the conditions under which tasks are undertaken should be varied where appropriate, for example extra time might be allowed so that a pupil can complete a task.

4.31. Fourth, the rules for the marking and for the aggregation of marks for the attainment targets, described in paragraphs 4.22 and 4.26, should be modified in particular cases. Certain pupils might be exempted from the requirement that they meet all the statements at a given level in order to achieve that level if they have difficulty achieving it because of their disability.

4.32 The general rule for the combination of attainment targets for reporting purpose set out in paragraph 4.31 might be amended in the case of an SEN pupil to allow for a weaker

performance on one AT which results from the pupil's disability. This is likely to apply particularly to attainment target 3 on planning and making.

ILLUSTRATIVE MATERIAL

INTRODUCTION

1. Following the publication of our Interim Report we sought examples of good practice in the teaching of design and technology in primary and secondary schools in England and Wales. We are most grateful to all those who responded; the development of our ideas has been assisted considerably by their contributions. From the responses, it is clear that the range of activities through which design and technological capability is being developed is extensive. It is also clear that current practice can be developed with minimum adaptation to incorporate the programmes of study and achieve the attainment targets we recommend.

2. Design and technological activities need to be set within a framework which relates to the programmes of study and attainment targets, and which is designed to ensure progression. We provide below some indications of how this could be achieved. In the course of this we refer to activities and tasks of various kinds, but these are to be seen as located within a broad and purposeful framework.

KEY STAGES 1 and 2

3. In the primary school individual class teachers will clearly be responsible for ensuring that they organise their pupils' work to deliver the programmes of study and attainment targets. It will also be necessary for one teacher to have the responsibility of co-ordinating the work of the whole school, including the use of resources, and provide assistance to other teachers.

4. In establishing the framework for design and technological activities, teachers will need to consider the programmes of

study across the attainment targets as a whole: for levels 1 to 3 at key stage 1 and for levels 2 to 5 at key stage 2.

5. Much teaching at key stages 1 and 2 is presently based on themes or topics (eg transport, my body, weather, road safety, castles, flight). We assume that this general pattern of curriculum organisation will continue and that teachers will ensure that the matters, knowledge and skills in the relevant programmes of study are delivered mainly through such topics.

6. In deciding on the range of themes and topics for the key stage, teachers will be seeking to cover attainment targets and programmes of study in a several subjects. A number of questions arise about their ordering and planning for progression in relation to those subjects. In the case of design and technology, these might include

- are the themes planned for a time of the year when they relate to eg the season, festivals, events in which pupils will have an interest?

- do they provide for progression in the learning of the matters, knowledge and skills and in the kinds of activities specified in programmes of study for the key stage?

- do they provide for progression in relation to contexts eg by broadening the range of contexts and by working to greater depths in familiar contexts?

- do they provide opportunities for progression in the programmes of study for the core subjects (maths, science, English) at the same key stage?

7. Within each theme or topic, teachers will need to decide on the particular design and technological activities in which pupils will engage. Important questions to consider here include

- <u>What are the starting points for the activities?</u>

It is important to recognise that the four ATs for design and technology do not describe a linear process which requires the activity to begin at AT1. Identification of needs and opportunities may indeed be the starting point, but equally the activity can begin from use of materials, from an artefact which needs modification, from critical appraisal and in many other ways. With pupils at key stage 1 their experience of handling and working with materials will often be the starting point for design and technological activity. At other key stages, different starting points become more appropriate.

- <u>Does the selection of activities provide a well-balanced set of experiences for pupils? Do they include both precisely-prescribed tasks and others which are more open, where needs and opportunities have to be identified and met?</u>

The nature of design and technological activities and tasks, as well as their purpose, can vary considerably. Pupils may be provided with a number of different materials and required to investigate their working characteristics or properties (eg how good a thermal insulator is it? how well does it absorb water, how easy is it to shape) in order to choose or use one of the materials for a prescribed purpose. Amongst other things, they will be learning here about the characteristics and properties of materials, and also probably about the use of tools and equipment, as well as safety considerations. These are important aspects of the programmes of study and can be drawn upon in order to achieve the ATs.

However, this is a very different kind of activity from that associated with a more open-ended task eg where a problem is identified in general terms and pupils have to design, make and appraise a solution.
Thus, the provision of a home offering shelter from the weather to a family might be a task which invokes a

wide variety of imaginative responses from pupils, drawing upon their knowledge of dwellings in the past and in other cultures. A more prescribed activity might focus upon the use of one or two materials and their comparative advantages and disadvantages in a specific situation; or it might limit the task to a concern for energy considerations in a home in a certain location. Both kinds of task, open and prescribed, are important and a judicious, well-planned combination of them will be necessary.

- <u>Do the planned activities offer a broad range of contexts?</u>

Both in the attainment targets and in the programmes of study for design and technology, there are requirements that pupils should have experience of designing and making artefacts, systems and environments. The distinctions between these cannot always be drawn sharply, but they provide an indication of the breadth of outcomes from pupils' design and technological activity that will be assessed. Accordingly, the activities which are planned will need to ensure that an appropriate range of experiences are being provided.

To assist this planning, some kind of 'map' or 'checklist' may be helpful and one possibility for reviewing activities in relation to both range of contexts and type of outcome is given below.

Context / Outcome	Home	School	Recreation	Community (both local and other e.g Peruvian village)	Business/ Industrial
Personal A	--------	-------	----------	---------	----------
Personal S					
Personal E	--------	-------	----------	---------	----------
Other People's A	--------	-------	----------	---------	----------
Other People's S					
Other People's E	--------	-------	----------	---------	----------

[A=Artefact, S=System, E=Environment]

At key stage 1, most of the entries are likely to fall into the top left hand corner of this 'map' of design and technological activities. At key stage 2 it would be expected that more of the 'map' would be covered, with the bottom right hand corner being unfilled.

- <u>What contribution does each activity make to each of the four attainment targets?</u>

Again, a framework for analysis such as that set out below for key stage 1 may be helpful in order to see where activities need redesigning and/or supplementing in order that pupils might achieve the attainment targets.

Key Stage 1

AT / Activity	1	2	3	4
1 Making a den	Pupil questioned each other about what they wanted; explained their own ideas; had ideas about changes as they worked.	Pupils draw pictures of their ideas for the den and explain why they wanted it that way.	Pupils used materials effectively and safely, and explain clearly what they were trying to do	Pupils described what they liked and disliked about their den, and why.
2				

- How do the planned activities fit with the general description of activities and the knowledge, skills and values set out in the programmes of study for the relevant levels?

A 'map' such as the following example for key stage 2 might be helpful.

Key Stage 2

Activity / Programme of Study	1 Designing and making a post-man's bag.	2	3	4	5	6
Materials and components	Plastics: text-tiles: joining: water resistance:wear					
Energy/Forces	Weight					
Business and Economics	Costs: market sizes: product life.					
Tools and Equipment	Sewing equipment					
etc						

Some method of reviewing what is being covered in activities, such as the above, will assist decisions about the number of programmes of study items that are to be 'visited' in a year, and the depth of treatment. It will also make clear if there are aspects of the programmes of study that are not being touched upon in the planned activities and which might necessitate adjustments to the plans or, very occasionally, direct teaching of the topic.

ASSESSMENT AND RECORDING

8. An important aspect of the teacher's work will be concerned with the assessment of pupils' attainments and the recording of this in ways which enable pupils to be placed on a level for each of the ATs. Some form of record keeping, such as that below may be helpful.

Key Stage 1					Pupil's name							
Ats / Activity	AT 1			AT 2			AT 3			AT 4		
	Level			Level			Level			Level		
	1	2	3	1	2	3	1	2	3	1	2	3
1 Teddy bear's bed		✓		✓				✓			✓	
2 Model of garage		✓			✓				✓		✓	
3												

EXAMPLE OF AN ACTIVITY

We give here an example of an activity which might be carried out at key stage 1. It is provided as a means of indicating how such activity can be related specifically to the programmes of study for that key stage.

SHOPS

A traditional and very familiar theme - shops - can provide opportunity for work in design and technology.

The pupils and their teacher might decide to work on a variety of aspects, undertaking a wide range of activities. The following are some examples listed under the subheadings of the programme of study. Not all areas are covered in depth and the examples chosen reflect only one possible approach to the topic.

Materials and Components: exploring, choosing, using and evaluating materials for purposes such as the structure of the shop and its fittings, its goods, bags, display and labelling, clothing for its workers and customers - large construction kits,

boxes, paper, fabric, flour dough, clay, card, paint, markers and various ways of joining and applying them.

Energy: the effect of sunlight on packages and food; temperature control of storage conditions.

Business and Economics: exploring and discussing the roles and responsibilities of shopworkers and customers, the use of money and its exchange for goods, the ideas of work and wages.

Tools and Equipment: choosing, using and evaluating hands and other tools - scissors, brushes, markers, needles - for working with the materials; asking the teachers or adult to perform parts of operations which might be unsafe for the children at this stage, eg cutting holes in a large cardboard box with a craft knife.

Aesthetics: planning, modifying and evaluating the appearance and layout of the shop, its goods, the workers' hats and uniforms, customers' belongings - shopping bags, purses and wallets, bags for goods, labels and advertising.

Systems: creating systems and rules for the use of the shop, eg four children can play in the shop, a rota system, and testing them out by trying them in practice; systems for making sure that the oldest goods are sold first, that rotten fruit is thrown away, for tidying and sorting out the premises, for organising the money and deciding how much profit has been made.

Structures: discussing ways of making shelves, counters, trying out the ideas and modifying them until suitably strong and rigid, stand alone advertising and labels.

Mechanisms: looking at a model till to see how it works, a set of weighing scales for sweets.

Exploring and Investigating: visiting real shops, talking to their workers, discussing their own and relatives' experiences as customers, comparing their own designs and ideas with other

peoples' and those used in reality and so deepening their own understanding.

Imaging and Generating: having ideas about the layout of the shop, the rota system, drawing, painting and sequencing them, talking about them with other people, suggesting improvements and different ways of making bags.

Modelling and Communicating: making models and samples, role play of customers and shop assistants, paintings, drawings of the shop layout, advertising, drawing up and displaying the class rota.

Organising and Planning: planning the next stage verbally with the teacher or a group, helping to decide who should do each task.

Making: creating the objects required to build and stock the shop, its contents, the things needed by its workers and customers.

Appraising: through discussion of how it felt to use the shop. Does the organisation work? Are the bags strong enough to carry a reasonable amount? How much will they hold?

Health and Safety: considering strength, rigidity and stability of structures like counters and shelves. Will they fall down? What if someone leans on them? Considering cleanliness of workers' hands, tops, conditions for storage of perishable materials.

Social and Environmental: discussing how shop workers and customers behave towards each other, why shops are needed, effects of shop waste, litter on environment. What kind of shops do people need? What kinds do they want? Are the local shops like these? Could they be improved? How?

KEY STAGES 3 AND 4

9. In the secondary school one of the purposes of the approach we put forward is to bring together those parts of the

curriculum where substantial designing and making already takes place and to provide a framework within which the contribution, particularly of teachers of art and design, business studies, CDT, home economics and information technology, can be woven together to form a common experience for all pupils. This should lead to a more effective use of time in the secondary schools.

10. Many of the considerations outlined for key stages 1 and 2 apply with equal force to key stages 3 and 4:

- it will be important to plan for the key stage as a whole with key stage 3 comprising the programmes of study for levels 3 to 7 across all the attainment targets and key stage 4 covering levels 4 to 1.

- considerations outlined in paragraph 7 about the starting points, selection, range, contribution to attainment targets and programmes of study, are all important.

- appropriate and practicable assessment and recording procedures need to be developed and be publicly available.

11. A number of factors assume new or greater significance at these later key stages, however.

- we have identified art and design, business studies, CDT, home economics and IT as having a particularly important contribution to make. There will also be a close relationship with science and mathematics and the most successful coordination will occur when the senior management of the school assume responsibility for the overall planning.

- although considerations of gender bias and sex stereotyping are important at all key stages, they assume a particular significance in the latter key stages. It will be important in mixed schools to avoid activities, teaching methods and organisations which

make it difficult for boys and girls to work together in design and technology, contributing to shared tasks and having access to the same range of experiences.

- some of the activities in which pupils may be engaged differ from those characteristic of key stages 1 and 2 by being of longer duration (eg at levels 5 and 6, up to 24 hours; at levels 7, 8, 9 and 10 from 24 hours to 36 hours). Such extended design and technological tasks have implications for the timetable and for organisation generally. From what we have seen and from other evidence it is clear that the responses of schools to the teaching and learning requirements of design and technology are likely to vary considerably. We do not recommend rotational courses as an appropriate pattern of organisation.

EXAMPLE OF DESIGN AND TECHNOLOGICAL ACTIVITY: KEY STAGE 3

<u>Redesign a local amenity hall to help develop local community spirit</u>

Pupils would explore this context in the light of the particular context they have observed. From discussions and market research, perhaps involving questionnaires, pupils would identify tasks that could include:

a. Redesigning to space around the hall to provide:

- all weather play area
- seating
- parking
- a more attractive entrance
- sports facilities, such as a bowling green or a climbing wall
- flower beds and landscaping
- wheelchair access
- security

b. Redesigning the main hall area for multi-purpose use to meet community needs for:

- space for users such as pre-school play groups, keep fit
- sports area with floor markings
- public meetings
- stage with simple lighting
- refreshment area
- cloakrooms
- curtains, furnishings and black out facilities
- storage

c. Explore ways in which the hall might be used, considering running costs and earning potential to make it self supporting financially, such as:

- booking/letting system
- maintenance and security
- potential user groups
- environmental constraints (eg noise from a youth club)

There would no doubt be many other suggestions that would generate design and technological activities. Pupils would need to evaluate their ideas against a range of criteria including feasibility for making - either a model or a final prototype. We illustrate below the way in which at Level 5 the knowledge, skills and values set out in the programmes of study could arise from designing, making and appraising a demountable stage area for amateur productions and front of house facilities. This example is not intended to be a comprehensive statement of all the knowledge, skills and values which would be covered, but is simply an indication of how it is possible to teach the level through practical activity. Not all areas are covered in equal depth, but it is necessary to ensure sufficient flexibility to allow progression not repetition for individual pupils

Our example has two parts (a) the design of the stage and (b) 'front of house' facilities for light refreshments.

It is assumed that pupils will take into account such factors as the needs of different user groups, costs and revenue, safety.

Materials and Components:

(a) designing the units involving considerations of strength, weight, the ability to take paint of timber or man made board, hinges and fixings paint, fire proofing. The proscenium curtains: comparing durability, and visual appeal of the material against cost, how much they might fade, ease of cleaning. Using electronic components to simulate different lighting schemes.

(b) refreshment facilities: selecting and evaluating appropriate materials to construct a counter on which to prepare sandwiches; cupboards to store tea, coffee, cans of drinks; an area to prepare tea and coffee which is hygienic, easy to wipe down, waterproof and attractive to customers.

Energy:

(a) lighting rig with dimmer switches, precautions against heat damage from the lamps, control system.

(b) methods of boiling water (eg bottled gas, electric hob), heating food in an oven or microwave.

Business and Economics:

(a) as a result of their investigation of user needs, pupils could prepare a simple budget setting costs of materials against possible income from letting, including cost of maintenance, durability. Judging the quality of the product will include considerations such as ease of assembly and storage, the design of the proscenium, ability to be used for a wide range of activities.

(b) organising stock control procedures, light refreshments sales, organising secure storage facilities; planning what

to charge for tea and coffee to cover letting fees, washing, fuel.

Tool and Equipment:

selecting appropriate techniques and processes, judged by the requirements of the tasks in hand (eg tacking or gluing, a soldering iron or a glue gun) for graphical and modelling work; noting, if the full-sized version was to be built, what techniques, processes, tools and equipment might be required. A range of surface treatments, (eg painting or dip coating, sizing, using flame retardants) will be needed.

Aesthetics:

(a) the play itself offers wide scope (eg lighting effects, sets, scenery, props, costumes); designing the proscenium curtains to be attractive and functional (eg sight lines, black out); designing the units to offer different levels and effects.

(b) the design of plates and cups, cutlery for texture, colour, shape; the display of goods on the counter, table cloths and paper napkins; advertising materials; food packaging in order to promote the centre and its ethos.

Systems:

(a) analysing a simple lighting system to see how it functions, setting up a scale system, possibly controlled by a computer; storing and checking back demountable units; stage manager's 'prompt copy' or lighting plot

(b) rotas, stock control, accounting for money spent and received, security.

Structures:

(a) designing the lighting grid, the construction of the units, the proscenium arch using criteria such as safety, ease of handling, stability

(b) food counters, cupboards, secure storage; management structure of the centre; designing scale models that can be load tested for stability and strength.

Mechanisms: designing how the curtains could be operated, the lighting rig raised and lowered

Exploring and Investigating:

- recognising needs in the community, gathering and interpreting information in order to discover the range of activities for which the stage area might be used.
- gather, select and organise data (eg about lighting or sound systems)
- cost items for sale and bulk buying
- methods of food preparation and hygiene.

Imaging and Generating:

- in designing the lighting rig, focussing on different areas such as the layout of the grid, roof fixings, lamp brackets, safety chains, electrical connections
- the relationship of the material for the proscenium curtain to their visual effect and how they should draw
- the ergonomics and aesthetics of the cutlery and crockery, the style of the refreshment and food preparation areas
- adapting designs in light of economic factors and user preferences.

Modelling and Communicating:

- communicating ideas to potential users by sketching and modelling

- exploring advertising possibilities
- speculating about the flexible use of the stage area with lighting
- speculating about the layout of the refreshment area, its style and flow scheme
- designing cutlery, crockery and napkins
- analysing, comparing and evaluating food storage through appropriate charts and by written reports.

Organising and Planning:

- taking account of the time taken to canvass opinion, realistically assessing what can be achieved within the time and materials available
- deciding upon priorities so that an acceptable solution is completed, for example 'buying in' cutlery and crockery and concentrating on the counter and storage area; or designing the units without a proscenium
- choosing making techniques and processes that are realistic in terms of skill and the availability of equipment.

Making:

- a range of models, presentation drawing, scale prototypes of the stage units, lighting rig and proscenium designs, with surface finishes
- the mechanical system for drawing the curtains
- a range of forming and assembling techniques for the cutlery such as clay mock ups, wooden patterns for casting
- sewing and weaving for curtain and fabric samples
- preparation of food to assess the viability of the storage designs
- building appropriate models to a sufficient standard to explain to and inform potential uses.

Appraising:

- through their investigation of user preferences assess an acceptable level of outcome in terms of materials, cost, time and finish
- working in teams, using the opinions of others to evaluate progress
- in the reporting and modelling of ideas develop criteria with users in order to achieve a satisfactory outcome
- appraising commercial food outlets in terms of style, hygiene and storage.

Health and Safety:

- ensuring that the public safety aspects of their designs and properly realised
- ensuring that food preparation is hygienic
- identify potential hazards, such as fumes from heating plastics or casting and employ proper techniques and wear protective clothing.

Social and Environmental:

- in their investigations take account of the affects of their design on local residents, (eg noise)
- in their designing ensure that the full range of potential users, eg the elderly, ethnic arts, mothers and toddlers, steel bands and school productions.

NATIONAL CURRICULUM DESIGN AND TECHNOLOGY WORKING GROUP

TERMS OF REFERENCE

Background

1. The Education Reform Bill currently before Parliament provides for the establishment of a National Curriculum of core and other foundation subjects for pupils of compulsory school age in England and Wales. For most subjects, including technology, the Government wishes to establish clear objectives - attainment targets - for the knowledge, skills, and understanding which pupils of different abilities and maturities should be expected to have acquired by the end of the academic year in which they reach the ages of 7, 11, 14 and 16; and to promote them, programmes of study describing the content, skills and processes which need to be covered during each key stage of compulsory education. Taken together, the attainment targets and programmes of study will provide the basis for assessing a pupil's performance, in relation both to expected attainment and to the next steps needed for the pupil's development.

2. Both the objectives (attainment targets) and means of achieving them (programmes of study) should leave scope for teachers to use their professional talents and skills to develop their own schemes of work, within a set framework which is known to all. It is the task of the Working Group on Design and Technology to advise on that framework for design and technology.

The Task

3. The science working group is already looking at attainment targets and programmes of study for primary technology. The Design and Technology group should focus on the final two key

stages, as defined in the Education Reform Bill - ie the secondary phase - building on the work of the science group for the primary phase.

4. The Working Group is asked to submit an interim report to the Secretaries of State by 31 October 1988 outlining:

i) the contribution which design and technology should make to the overall school curriculum and how that will inform the Group's thinking about attainment targets and programmes of study;

ii) its provisional thinking about the knowledge, skills and understanding which pupils of different abilities and maturities should be expected to have attained and be able to demonstrate at key ages;

iii) its thinking about the programmes of study which would be consistent with the attainment targets provisionally identified.

5. By 30 April 1989 the working group is to submit a final report to the Secretaries of State setting out and justifying its final recommendations on attainment targets and the programmes of study for design and technology. In addition, the Working Group should recommend attainment targets and programmes of study for design and for information technology in the first two key stages, for primary pupils, to supplement the recommendations of the science working group.

Approach

6. In approaching its task the working group is to view technology as that area of the curriculum in which pupils design and make useful objects or systems, thus developing their ability to solve practical problems. The working group should assume that

pupils will draw on knowledge and skills from a range of subject areas, but always involving science or mathematics. They should be taught the principles and practice of good design, the application of theoretical knowledge, and within that context the practical craft skills needed for realising their designs in wood, metal, plastics, textiles and other materials. They should also learn about the variety of modern materials and technologies in use in the industrial and commercial world. Pupils should prepare for the world of work by learning how to work in teams as well as by themselves; by understanding the importance of functional efficiency, quality, appearance and marketability; and about the importance of working within financial and technical constraints. Modern business practice increasingly involves the use of IT. Technological education should equip pupils with basic IT skills and develop an awareness of the potential use of IT and computer technology whether in the business office, or manufacturing or commerce.

7. Technology as described above is an activity which goes "across the curriculum", drawing on and linking in with a wide range of subjects. The group should start from the basis that technology is an area of study in its own right, with its own distinctive objectives and content. This does not necessarily mean that technology must be a separately timetabled subject: schools will be free to teach technology how they choose, provided that the activity is coordinated as a clear programme and directed towards the distinctive objectives of technology. By the end of the third key stage of their compulsory education pupils should have acquired a firm basis of skills, knowledge and understanding in technology. This will provide a broad foundation on which pupils can build in undertaking technological work as defined in paragraph 6 in more specialised contexts, including other subject areas during the fourth key stage, whether for GCSE or otherwise.

8. Design will be an essential part of technology as defined above, but will also draw on and contribute to other areas of the curriculum. The Working Group is asked to consider design in all its aspects throughout the period of compulsory education, identifying and recommending attainment targets for those of particular importance in technology and recommending a framework within which other aspects will need to be developed in other subjects. The group should work on the basis that the distinctive objectives of design and technology are that a pupil at the end of his or her compulsory education, should:

i) be able to design and make artefacts and systems, applying scientific or mathematical and other knowledge and skills;

ii) be familiar with designing processes and have had experience of applying them to real life tasks within typical constraints (time, money etc) with due regard to cost, marketability, social, environmental and other relevant factors;

iii) appreciate the importance of design and technology in society, historically and present day, particularly as it affects the economy.

9. The use of computer and information technology and other advance technologies in control, simulation and data storage and retrieval is becoming increasingly important in our society. This fact should be reflected in the use of computer and information technology across the school curriculum. Each subject group as it is set up is being asked to consider the scope for using computer and information technology in its subject and to frame appropriate attainment targets. However, the design and technology group is asked to provide within the national curriculum a focus for the development of computer and

IT awareness, and skills such as keyboard skills and basic programming, by recommending appropriate attainment targets at the four key stages together with a supporting programme of study related to IT and basic computer skills and to awareness of the uses of advanced technology.

10. In carrying out its work the group should consult informally and selectively with relevant interests including industry and have regard to the work of other subject groups, particularly the work of the science group on primary technology. Additionally the group should take account of

i) the broad framework proposed by TGAT for assessment and testing;

ii) the contributions which design and technology can make to learning about other subjects, and other subjects can make to learning about design and technology.

iii) best practice and the results of any relevant research and development, and in particular developments under TVEI.

and the issues covered in the supplementary guidance to the Group's Chairman."

SUPPLEMENTARY GUIDANCE TO THE CHAIRMAN OF THE DESIGN AND TECHNOLOGY WORKING GROUP

1. This note amplifies some of the points outlined in your terms of reference.

Attainment Targets and differentiation

2. The attainment targets are expected to provide specific enough objectives for pupils, teachers, parents and others to have a clear idea of what is expected and to provide a sound basis for assessment and testing. They should allow scope for the very able, those of average ability, and the less able to show what they know and can do. It should not be necessary to have different attainment targets for children of different abilities. The targets should be capable of assessment at a range of levels and challenge each child to do the best that he or she can. Attainment targets should be sufficiently challenging at all levels to raise expectations, particularly of pupils of middling achievement, as well as stretching and stimulating the most able. The working group should give particular thought to the application of attainment targets to lower attaining pupils and those with special educational needs. In advising on attainment targets in design and technology, the working group should attempt to cover all areas of the subject and justify fully any recommendation that specific targets are not appropriate for particular aspects.

Programmes of Study

3. The programmes of study should provide a detailed description of the content, skills and processes which all pupils need to be taught so that they can develop the knowledge and understanding they will need to progress through school and eventually to adult life and employment. This detailed description needs to be set within an outline or overall map of

the design and technology curriculum which takes account of what may be expected of pupils of different abilities.

4. Within the overall programme of study, however, there should be space to accommodate the enterprise of teachers, offering them sufficient flexibility in the choice of content to adapt what they teach to the needs of the individual pupil.

5. The development of attainment targets and programmes of study is likely to be an iterative process. Some consideration of content will probably come into the working group's thinking about attainment targets. It will also be necessary to take into account the general objectives and the contribution of design and technology to the overall curriculum.

Special Needs

6. The Government proposes that where a pupil has a statement of special needs under the 1981 Education Act, the statement should specify any national curriculum requirements which should not apply or should be modified for that individual pupil. In addition, orders will define the circumstances in which the application of the national curriculum provisions to individual pupils might be modified or disapplied for any foundation subject. For example, the modern language orders might indicate that pupils with severe difficulties in English should be introduced to a foreign language later than or on a different basis for most children. Any comparable adaptations which could be justified in the case of design and technology should be considered by the working group.

Links with other subjects

7. By its nature technology has links with subjects across the curriculum. Science and technology are intimately linked at secondary as well as primary level and their teaching needs to be

properly coordinated. Scientific concepts and knowledge relating to materials, energy and power are particularly relevant to technology. The working group should where appropriate link its recommendations with those of the science working group so that they complement rather than duplicate one another.

8. The working group should also take account of the possibilities of links with other relevant subjects such as art, home economics and business studies. It should consider how and to what extent the design and technology programmes of study should draw on these subject areas. For the fourth key stage the working group should advise on central design and technology attainment targets which might be pursued either on a single subject basis or through other subjects, and which could form the basis of more developed technological work in those subject areas.

9. There are a number of important subjects, themes and skills which can be taught and developed through foundation subjects. The working group has a specific remit in relation to design. It should also consider the contribution of technology to other themes such as economic awareness and environmental awareness. The working group should also cover the technological aspects of health and safety education both in the workshop and outside the school. All subjects should promote the development of good written English and numeracy.

Ages and Stages; Time Allocations

10. The working group should assume that all pupils, other than those with statements of special need under the Education Act 1981 which specify otherwise, will study technology throughout their compulsory schooling and the majority are likely to take a GCSE in technology or a subject which will involve a substantial element of technology approved against relevant GCSE criteria.

11. In framing its recommendations the working group should assume that on average the equivalent of some 2-4 periods of a 40 period timetable is available for technology for years 1-3 of secondary school. Beyond that stage the amount of time required will depend upon the extent to which the attainment targets and programmes of study are pursued through other subjects. The group should assume that, for a pupil in years 4 and 5 of secondary school, the technology core element, and any technological component developed in other subject areas, would each take up on average 2 timetable periods.

Assessment and Examinations

12. Attainment targets will provide objectives against which pupils' progress and performance can be assessed. The main purpose of such assessment will be to show what a pupil has learnt and mastered, so as to enable teachers and parents to ensure that he or she is making adequate progress and to inform decisions about the next step.

13. The main focus of the group's work will be on attainment targets and programmes of study. However, it should take account of the broad framework of the Report of the Task Group on Assessment and Testing which included recommendations for the work of subject groups, and in particular should offer advice in broad terms about assessment and testing in relation to the attainment targets recommended, and what might appropriately be measured by nationally prescribed tests.

GCSE

14. Not all pupils will take GCSE examinations in technology as such. However, in defining attainment targets and programmes of study the working group should take account of the GCSE National Criteria for CDT and other subjects with a technological

element so far as these are consistent with the approach in the terms of reference. It will want also to take note of the Secondary Examination Council's work on making GCSE grades more objective: the report of the grade criteria working parties may be a source of ideas as may the individual GCSE syllabuses developed under the CDT, General or other Subject Criteria where there is a technological element. The School Examinations and Assessment Council will be asked to advise on revised GCSE criteria to reflect the national curriculum attainment targets and programmes of study for ages 14-16 and to approve syllabuses accordingly.

General Principles

15. Generally in framing recommendations, the Group should consider the need for

- continuity and progression throughout the period of compulsory schooling and beyond

- breadth and balance

- relevance: the content and teaching of the various elements of the national curriculum should bring out their relevance to and links with pupils' own experience and background and their practical application and continuing value to adult and working life

- all elements of the curriculum to contribute to the development of general personal qualities and competences in young people which will be of value to them in adult and working life - for example, self-reliance, self-discipline, a spirit of enterprise, a sense of social responsibility, the ability to work harmoniously with others, an ability to apply knowledge and use it to solve practical real life problems.

16. It will also be important to bear in mind that the curriculum should provide equal opportunities for boys and girls; and to consider, in this context, the expectations and attitudes of girls to design and technology. The Group should also take account of the ethnic and cultural diversity of the school population and society at large.

Implementation

17. The Government intends to make an Order relating to attainment targets and programmes of study in design and technology for secondary pupils by the end of 1989 following wide consultation through the proposed National Curriculum Council. On this timetable, schools may expect to begin implementing this Order at the start of the academic year 1990-91. The working group should advise whether the Order should be brought in on a phased basis rather than for all children at once.

18. In carrying forward its work the group may find it useful to take account of good practice in technological education as defined in the terms of reference and developed in individual schools and by LEAs. It may also wish to draw on the collective wisdom of the professional bodies and those organisations outside the world of education who have an interest in design and technology in schools.

Appendix C

ELIZABETH HOUSE
YORK ROAD
LONDON SE1 7PH
01-934 9000

Lady Parkes
The Vice Chancellor's Lodge
Grosvenor Road
Leeds, LS6 2DZ

23 November 1988

Dear Lady Parkes,

DESIGN AND TECHNOLOGY WORKING GROUP : INTERIM REPORT

Thank you very much indeed for your letter of 9 November covering the Design and Technology Group's interim report. This response reflects the views of the Secretary of State for Wales, as well as my own. We are both most appreciative of all the hard work which the report represents.

We think that the report will serve very well as a basis for the informal consultations that you are now proposing. We are content that the report should be published for this purpose, and I have asked my Department to arrange publication as quickly as possible.

The report sets out a coherent and persuasive view of design and technology as an essentially practical activity, concerned with developing pupils' competence to tackle a wide variety of problems, drawing on a broad base of knowledge and skills. We endorse this approach. Like the Group, we attach particular importance to providing, through the attainment targets for design and technology, a framework within which schools will be able to co-ordinate the range of design and technological activity that is currently undertaken within separate subject specialisms, particularly CDT.

The Group has opted for a relatively small number of attainment targets for design and technology, in the interests of simplicity and manageability. We are sure that this is right. The Group has also made a promising start in defining what pupils need to know about information technology.

We are grateful for the Group's thoughts about resource implications. As you point out, an in-service training programme will be needed to help teachers to come to terms with the new requirements, and additional specialist accommodation and equipment will also be required. Support of this kind will be available through Education Support Grants and through the LEA Training Grants Scheme, while the phased introduction of attainment targets and programmes of study will enable the Government to monitor the resource implications for later stages of implementation.

We were pleased to note that the Group had made a useful start in exploring the base of knowledge and skills which pupils need to have in order to develop their technological capability. As the Group recognises, the relationship between knowledge and skills and the practical activity of design and technology is complex and interactive. On the one hand, pupils need a base of knowledge and skills from which to engage in design and technology and you reflect this in paragraph 2.25. On the other, the act of 'designing and making' can itself contribute to a better knowledge and understanding of scientific and mathematical concepts, while also requiring pupils to seek out new knowledge from "whatever sources seem likely to assist them in their quest for a solution".

It is important that the statements of attainment at each level and programmes of study adequately reflect this complex relationship between knowledge and skills and the practice of design and technology. The Group has chosen to formulate attainment targets in terms of general design and technological tasks; and to provide the detail of the knowledge, skills and understanding needed to achieve these tasks in the programmes of study. We note the Group's rationale for this approach, in particular its concern that a "knowledge-led" approach to attainment targets would not reflect the essentially practical nature of design and technology. It is useful that the Group has set out examples of statements of attainment and extracts of programmes of study to illustrate the proposed approach. It will be essential to build on this in your further work.

You will want to explore reactions to the Group's approach to attainment targets, statements of attainment and programmes of study in the consultations on which you are now to embark. In particular you will wish to assure yourselves that it gives teachers a sufficiently concrete and precise indication of what is required of them. This is a point you will need to address very carefully. It is absolutely essential that teachers and others are left in no doubt about what is expected. It will be important for the Group, in its final report, to present illustrative projects and tasks, drawn from a range of contexts and subjects and based on current good practice, to exemplify the precise meaning of the statements of attainment and programmes of study at different levels.

As the preamble to the interim report acknowledges, the Group has not yet, understandably, tackled all aspects of its remit. You will be turning to these in your further work. In particular, you will need to:

i) bring out, perhaps through the illustrative projects and tasks referred to above, how design and technology can contribute to the development of other curriculum themes, skills and personal qualities. In particular, we want you to show how real world contexts for technological problem-solving can help to develop economic and careers awareness and business understanding, and the personal qualities which are mentioned in paragraph 1.13 of your report

ii) consider the extent to which your specific recommendations for design associated with technology encompass the whole of design or whether any aspects of design will need to be covered in other areas of the curriculum

iii) consider whether any modifications of your recommended statements of attainment or elements of your programmes of study are required for particular groups of pupils with special educational needs

iv) co-ordinate your recommendations in detail with the statutory proposals (and in due course Statutory Orders) for science, mathematics and English. In particular, you will need to ensure that the attainment levels for design and technology are consistent with the knowledge and understanding expected within the attainment targets at different levels for mathematics and science

v) consider further your recommendations for key stage 4 in the light of the steer in your terms of reference that pupils at this stage should be allowed a choice within the National Curriculum framework between doing a general course of design and technology and pursuing more specialised design and technological and business course options, each incorporating a common D&T core. You may find it helpful to draw here on the experience of the TVEI Unit, since a number of LEAs and schools have already adopted approaches of this kind in their TVEI extension schemes

vi) consider further the number and grouping of attainment targets for general IT capability. The logic of the Group's approach to this as set out in Chapter 3 of the interim report, points to one profile component for "general IT capability" additional to, and separate from, the profile component structure for design and technology. This will need to be clarified.

We wish the Group well in its further work. You have made a very good start on a difficult and complex task. Our thanks again for the considerable time and effort that members of the Group are devoting to the work. We look forward to receiving your final report by 30 April 1989.

Yours sincerely

Kenneth Baker

SECRETARIES OF STATE'S PROPOSALS FOR DESIGN AND TECHNOLOGY

FOREWORD

.....

The Education Reform Act 1988 provides for the establishment of a National Curriculum comprising core and other foundation subjects, to be taught to all pupils of compulsory school age in maintained schools, for each of which there are to be appropriate attainment targets, programmes of study and assessment arrangements. The Act defines attainment targets as:

> 'the knowledge, skills and understanding which pupils of different abilities and maturities are expected to have by the end of each key stage'

and programmes of study as:

> 'the matters, skills and processes which are required to be taught to pupils of different abilities and maturities during each key stage'.

The four consecutive key stages cover the years of compulsory schooling 5-16.

The Act empowers the Secretaries of State to specify attainment targets and programmes of study. Before they may draft Orders, they are required to make formal proposals in accordance with the provisions of the Education Reform Act. In England, the Secretary of State for Education and Science is required to make proposals to the National Curriculum Council (NCC) which in turn is required to consult, and then to make a report to the Secretary of State, containing a summary of views expressed on his proposals and the NCC's advice and recommendations. In Wales, the Secretary of State for Wales is required to give notice of his proposals to the Curriculum Council for Wales (CCW), and to any other persons with whom consultation appears to him to be desirable. In the light of

the NCC's advice and the outcome of the parallel consultations in Wales, the Secretaries of State may proceed to draft Orders, allowing a minimum period of one month for further evidence and representations before the Orders are made.

This document contains the joint comments of the Secretaries of State for Education and Science and for Wales on the report of the Design and Technology Working Group which they set up to make recommendations on attainment targets and programmes of study. The Secretaries of State's comments and the Report together represent the formal proposals for statutory technology attainment targets and programmes of study.

In England, views on the Secretaries of State's proposals should be sent to the National Curriculum Council (NCC) at 15/17 New Street, York YO1 2RA by 22 September 1989.

In Wales, views should be sent to Schools Division 2, Welsh Office Education Department, Welsh Office, Cathays Park, Cardiff CF1 3NQ.

MEMBERSHIP

Lady Parkes	Chairman
Ms Krysia Brochocka	Educational Design Consultant
Mrs Elsa Davies	Educational Liaison Officer, British Institute of Management
Malcolm Deere	Secretary of the Standing Conference on University Entrance
Denis Filer	Director General, The Engineering Council
Trefor Gibbons	Head of Design Faculty, Gwendraeth Valley School, Dyfed
John Hammond	Lecturer in Computing Science, City University.
Dr Philip Hunter	Chief Education Officer, Staffordshire
Ben Kelsey	Director of the National Business and Information Studies Project
Paddy O'Hagan	Head of Faculty, Design and Technology, Northolt High School, Ealing
Andrew Breckon	Senior Inspector (INSET), Lincolnshire LEA
Professor David Layton	Professor of Science Education, University of Leeds

Observer

George Hicks	Her Majesty's Inspectorate

Secretariat

Stephen Jardine (Secretary)
Andrew Bidewell
Debra Gilder
Desmond Woode
Gregona Samuel

In Attendance

Jane Benham
Helen Williams

TECHNOLOGY 5 TO 16: PROPOSALS OF THE SECRETARIES OF STATE FOR EDUCATION AND SCIENCE AND FOR WALES

.....

The origins and scope of our proposals

1. In April 1988 the Secretaries of State for Education and Science and for Wales appointed a Working Group to advise them on appropriate attainment targets and programmes of study for technology, comprising design and technology and information technology. The Group's Report on this non-traditional area of the curriculum represents a considerable achievement, and it is on the basis of the Group's advice on attainment targets and programmes of study that we now make jointly our formal proposals in accordance with the provisions laid down in the Education Reform Act. The full text of the Working Group's Report is attached. References in this document are to chapter and paragraph numbers in the Report.

2. Our proposals are confined to attainment targets and programmes of study. They do not relate to assessment arrangements, although these are covered in the Working Group's Report. We are grateful to the Design and Technology Working Group for the thought it has given to assessment issues. We are asking the School Examinations and Assessment Council (SEAC) to take these recommendations into account in advising us in due course on the Orders specifying assessment arrangements covering technology. But our present proposals relate only to Orders under section 4(2)(a) and (b) of the Act for attainment targets and programmes of study.

3. The Report comments on other matters, for example the resources, staffing and teacher training implications of establishing design and technology within the National Curriculum. We are grateful for the Group's advice on these points, which will be duly considered, together with any comments on them.

Objectives of the consultation exercise

4. The objective of the processes for statutory consultation in England and Wales is to produce clear recommendations in a form which can be put into draft Orders under section 4(2)(a) and (b) of the Act. Our proposals for attainment targets and programmes of study are those recommended by the Working Group. We are satisfied that the Group's recommendations represent a sound basis for legislation and we propose no changes.

THE PROPOSALS

Attainment targets

5. The Report outlines five attainment targets - four for design and technology which are grouped for assessment and reporting purposes into one profile component, and a fifth for information technology which comprises a separate profile component. For each attainment target there are statements of attainment which define ten levels of attainment specifying what pupils should know, understand and be able to do, appropriate for pupils of different ages and abilities. The Report also recommends the ranges of levels of attainment which should apply to pupils at the end of each key stage - ie at the ages of 7, 11, 14 and 16. These are:

Key Stage 1 -	Levels 1-3
Key Stage 2 -	Levels 2-5
Key Stage 3 -	Levels 3-7
Key Stage 4 -	Levels 4-10.

6. We propose that the attainment targets, the associated statements of attainment at each level and the ranges of levels appropriate to each key stage should be included in the Order to be made under section 4(2)(a) of the Act. For ease of reference the attainment targets are reproduced below.

Programmes of study

7. The purpose of programmes of study is to establish the matters, skills and processes which pupils should be taught in order to achieve the attainment targets. The programmes of study in chapter 2 of the Report offer a sound and comprehensive coverage of the essential content which pupils will need to tackle. We therefore propose that Group's recommended programmes of study should form the basis for the Order to be made under section 4(2)(b).

Application of Orders

8. In chapter 1 the group makes recommendations concerning the disapplication of some parts of some attainment targets and programmes of study for certain groups of pupils with special educational needs. We propose that these recommendations should form the basis of modifications made to attainment targets and programmes of study in Orders under section 4 of the Act and that, subject to those modifications, the attainment targets and programmes of study should apply to all pupils.

Commencement dates

9. We propose to introduce the attainment targets and programmes of study for all pupils in England and Wales in the first year of each of key stages 1, 2 and 3 in Autumn 1990. The Working Group recommends that those for key stage 4 should be introduced in 1993, once pupils entering that key stage have completed the programmes of study for key stage 3. We endorse that recommendation.

APPENDIX

SUMMARY OF ATTAINMENT TARGETS

Profile Component 1 - Design and Technology

AT1 - Identifying needs and opportunities

Through exploration and investigation of a range of contexts (home; school; recreation; community; business and industry) pupils should be able to identify and state clearly needs and opportunities for design and technological activities.

AT2 - Developing a design proposal

Pupils should be able to produce a realistic, appropriate and achievable design by generating, exploring and developing design and technological ideas and by refining and detailing the design proposal they have chosen.

AT3 - Planning and making

Working to a plan derived from their previously developed design, pupils should be able to identify, manage and use appropriate resources, including both knowledge and processes in order to make an artefact, system or environment.

AT4 - Appraising

Pupils should be able to develop, communicate and act constructively upon an appraisal of the processes, outcomes and effects of their own design and technological activity as well as of the outcomes and effects of the design and technological activity of others, including those from other times and cultures.

Profile Component 2 - Information Technology

AT - IT

Pupils should be able to use IT appropriately and effectively to communicate and handle information in a variety of forms and for a variety of purposes and to design, develop and evaluate appropriate models of real or imaginary situations.

F

PRIME MINISTER 13 June 1989

TEACHER TRAINING

Importance of Teacher Training & Supply

There are two reasons - quantity and quality:

Existing & Predicted Shortages

(a) One is given by Kenneth Baker in para 6. By 1995 DES predict a shortage of 10-20,000 teachers (assuming the current pupil-teacher ratio) and very high shortages in individual subjects (maths 10%, science 18%, design and technology 27%, modern languages 16%.)

Shortages in individual subjects are probably far more important than the overall figure. Indeed, given the stock of qualified teachers, and the possibility of varying the pupil-teacher ratio, it is very doubtful if there is a potential problem of shortage.

Criticisms of BEd & PGCE

(b) A far more serious problem which is not mentioned is the criticism of teacher training programmes which has been documented by HMI (The New Teacher in School, 1988, HMI) eg

- widespread incompetence among newly qualified teachers (HMI concluded that 25% of all lessons by new teachers was less than satisfactory, poor or very poor);

- inadequate training in teacher training institutions (eg 11% of secondary school teachers lacked some or many basic skills).

It also emerged from the same review that PGCE is a disincentive to good graduates entering the teaching profession, eg

- poor 'A' level results of students who enter for PGCE (average of only 8.8 points at 'A' level);

- one-third of new teachers were not satisfied with their college courses and just under one-half felt there was far too much theory and not enough practical training.

DES Action Plan

Kenneth Baker has put forward a four-point action programme to ensure an adequate supply of teachers of the right quality:

(i) maximise entry into present-style initial teacher training courses, while striving to raise quality;

(ii) attract more people back into teaching;

(iii) develop two new routes into teaching - "licensed teacher" and "articled teacher" schemes;

(iv) develop in-service training.

The Critical Judgement

The critical judgement which has to be made is whether these policies will succeed in raising the quality and numbers of people entering the teaching profession.

Should We Do More?

Everything which Kenneth Baker is doing is good and a step in the right direction.

My personal feeling, however, is that it is far from adequate.

There is a major inconsistency at the heart of this action plan. On the one hand the Secretary of State explicitly says that he wishes to "maximise entry into present style ITT", yet on the other hand he is introducing new routes to teacher training because of the failures of the existing system. 1000

The reason for this is, I believe, that he has been got at by the teacher training establishment and the teacher unions, who have persuaded him that the major route into the profession should continue to be BEd and PGCE courses. He can experiment on the side but the new courses are to remain essentially fringe activities.

The major point here is that while the existing courses can be improved somewhat, unless the new routes are given some muscle they will have little impact on the general quality of teachers.

Kenneth Baker says in his paper that total output from the new articled teacher scheme will be no more than 300 new teachers in 1992 and 300 in 1993, ie 2.5% of newly trained teachers. 97.5% will continue to come from traditional routes!

Conclusion

At present the existing BEd and PGCE courses have a virtual monopoly over routes into the teaching profession. Although Kenneth Baker has introduced new routes, they do little to break

the monopoly power of the teacher training establishment over the system. Until this monopoly is broken and first class graduates go straight into teaching, we shall have continuing problems of 'shortages' and lack of quality.

The existing targets set by the Secretary of State for the new routes into teaching are:

- licensed teacher scheme - numbers increase from 1000 to 2000 a year;

- articled teacher scheme - numbers to be 300-500 a year.

In both cases it is said that once they prove themselves a success, they will be expanded.

Recommendation

To break the monopoly over existing teacher training, alternative routes need to account for at least say 25% of all newly trained teachers in five years' time. (Although 25% is arbitrary it is sufficient to dent the monopoly). To achieve this we cannot rely on vague promises of 'considerable expansion' in the future, yet very little action in the immediate.

The expansion should come from a major increase in numbers on the articled teacher scheme. It has been a huge success in New Jersey, and could be just as significant a success here.

The Secretary of State should be asked to reconsider his target numbers for the new schemes which he has put forward and to set out a programme which would enable much higher target numbers to be reached.

Brian Griffiths

BRIAN GRIFFITHS

PRIME MINISTER

MEETING OF E(EP): 14 JUNE

You cleared in correspondence over the weekend the issue of student loans' administration.

So tomorrow's E(EP) has just two items on the agenda:

- teachers' pay;
- teacher training.

The papers are in the two dividers below.

In divider 1 these are:

Flag A - the DES paper on teachers' pay you saw over the weekend;

Flag B - Cabinet Office brief;

Flag C - Brian Griffiths' brief.

In divider 2 these are:

Flag D - DES paper on teacher training that you saw over the weekend;

Flag E - Cabinet Office brief;

Flag F - Brian Griffiths' brief.

PAUL GRAY

13 June 1989

cc Parkinson

RA

PRIME MINISTER

MEETING OF E(EP): WEDNESDAY 14 JUNE

You may like, over the weekend, to look at some of the papers for next Wednesday's meeting of E(EP).

There are two main items on the agenda:

- teacher training;
- teachers' pay.

I have put separately in the box some papers on Student Loans Administration which, if you are content, can be cleared in correspondence and need not be added to the E(EP) agenda. Agreed NT

Teacher Training

You have had several bilateral exchanges with Mr. Baker in which you have sought to persuade him to elaborate his proposals for teacher training. Following the last round, you invited him to prepare a paper for E(EP), in the hope that this would persuade him to provide more details. You were also concerned that the two main new initiatives - licenced teachers and articled teachers - seemed likely to be on such a small scale that they would not materially affect the position.

Mr. Baker's paper is at flag A below. I will let you have next week, briefing from Brian Griffiths and the Cabinet Office when they have had a chance to consider the paper. At first sight, I suspect Brian will continue to advise that the licenced teachers and articled teachers initiatives are disappointinly modest.

Teachers' Pay

Mr. Baker's paper on this is at flag B. You will recall he described to you at your last bilateral with him, his plan for dropping the idea of a Teachers' Negotiating Group, and

progressively moving to a system in which negotiating responsibility rested with the local authorities. At the same time, there would be fall-back Government override powers.

The proposals in the paper follow closely what Mr. Baker described to you. He also continues to place emphasis on the political need, as he sees it, for a substantial teachers' pay increase next year.

You asked him to consider taking things a step further by allowing individual local authorities to conduct their own negotiations. Mr. Baker addresses this in paragraph 10 of the paper, but is dismissive of the idea.

As with the teacher training paper, I will let you have Cabinet Office and Policy Unit briefing next week.

S.W. Hoddy

PP PAUL GRAY

9 June 1989

PM2ARE

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PARC CATHAYS
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0222 823289

Oddi wrth yr Ysgrifennydd Parhaol

WELSH OFFICE
CATHAYS PARK
CARDIFF CF1 3NQ

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Sir Richard Lloyd Jones KCB

From the Permanent Secretary

8 June 1989

Sir David Hancock KCB
Department of Education and Science
Elizabeth House
York Road
LONDON SE1 7PH

Dear David,

GOVERNMENT COMMUNICATIONS WITH SCHOOLS

Thank you for your letter of 11 May circulating draft guidance for other government departments and their non-departmental public bodies.

This had been cleared in draft with my people, and I am generally content.

I did however pause when I came to paragraph 7. Perhaps this is being over sensitive, but the last two lines if taken out of context, as I suppose they could conceivably be, might be taken to mean that a completely neutral tone should be adopted on all occasions, whereas we are I presume all agreed that there is no objection to seeking to promote policies which are widely supported, eg as it might be a Sports Council encouraging greater participation in sport, or health promotion authorities promoting healthy lifestyles.

There is too the more pedantic point that we do not seek to imply that noncontentious issues need not be presented factually.

May I offer the attached revised draft of paragraph 7.

I am sending copies of this letter and the attachment to those who received yours.

Yours ever,

Richard

RICHARD LLOYD JONES

ANNEX

REVISED PARAGRAPH 7

While this responsibility under the 1986 Act rests with LEAs and schools, it is essential that use of materials originating in Government Departments or sponsored bodies does not give rise to justified complaints of political bias in schools. Where the contents of communications intended for schools are politically contentious, the issues must be presented factually, and must not include comment which could be regarded as politically biased.

10 DOWNING STREET

LONDON SW1A 2AA

From the Private Secretary

8 June 1989

NATIONAL CURRICULUM: PROPOSALS FOR ENGLISH

We discussed yesterday my letter of 6 June recording the Prime Minister's comments on the Working Group's proposals with regard to Standard English. You explained that your Secretary of State would prefer to amplify the proposed references to "develop the use of written Standard English" to include the qualification "except in contexts where non-standard forms are needed for literary purposes, for example in dialogue, a story or a play script". I have put this point to the Prime Minister, and she is content for this expanded version to be used.

I am copying this letter to Stephen Williams (Welsh Office), David Crawley (Scottish Office), Stephen Leach (Northern Ireland Office) and to Trevor Woolley (Cabinet Office).

Paul Gray

Tom Jeffery Esq
Department of Education and Science.

MFJ

cc JU

10 DOWNING STREET

LONDON SW1A 2AA

From the Private Secretary

8 June 1989

Dear Tom,

NATIONAL CURRICULUM: PROPOSALS FOR TECHNOLOGY

The Prime Minister was grateful for your Secretary of State's minute of 2 June and the attachments. She is content for him to proceed on the basis proposed.

I am copying this letter to Stephen Williams (Welsh Office), Neil Thornton (Department of Trade and Industry), Clive Norris (Department of Employment), David Crawley (Scottish Office), Stephen Leach (Northern Ireland Office) and Trevor Woolley (Cabinet Office).

Yours,
Paul

Paul Gray

Tom Jeffery Esq
Department of Education and Science.

RJ

PRIME MINISTER

NATIONAL CURRICULUM: DESIGN AND TECHNOLOGY

Mr. Baker has now sent you a minute reporting that he has received the final report of the National Curriculum Design and Technology Working Group. His letter is at **Flag A**, the report itself at **Flag B**, and the terms of his proposed announcement to accompany publication of the report is at **Flag C**.

Mr. Baker warmly welcomes the content of the report, and he and Peter Walker propose to endorse without modification the Group's recommendations as the Government's statutory proposals for attainment targets and programmes of study for technology. He wants to publish the proposals as soon as possible, and ask the NCC for a report and recommendations by November; this is with a view to introducing the reforms for 5-11 year olds from autumn 1990 and for 14 year olds from autumn 1993.

Brian Griffiths has looked at the report. His comments are at **Flag D**. He recommends accepting the proposals.

Content?

(PAUL GRAY)

7 June 1989
DALACY

CONFIDENTIAL

10 DOWNING STREET

LONDON SW1A 2AA

From the Private Secretary

7 June 1989

Dear Tom,

GM SCHOOLS: CARDINAL VAUGHAN SCHOOL AND CARDINAL HUME

The Prime Minister was grateful for your Secretary of State's minute of 5 June. She has noted that your Secretary of State will be having a meeting with Cardinal Hume and she shares his wish that Cardinal Hume can be persuaded to accept his legal duties. But she has also noted that your Secretary of State is not confident of success in this aim; should your Secretary of State's meeting not be successful, she thinks he should then come forward with proposals for the most effective way of ensuring that the law is upheld.

I am copying this letter to Michael Saunders (Law Officers' Department).

Yours,
Paul

PAUL GRAY

Tom Jeffery, Esq.,
Department of Education and Science.

CONFIDENTIAL

PRIME MINISTER

NATIONAL CURRICULUM: ENGLISH

You saw earlier in the week Mr. Baker's proposals for handling the final report of the National Curriculum English Working Group. You agreed that he could endorse the Working Group's proposals subject to firming up the references to Standard English to read "develop the use of written Standard English". The key change, following advice from Brian Griffiths, was to delete the qualification "where appropriate".

Mr. Baker's office have now come back to me saying they recognise that "where appropriate" provided too much of a loophole. But DES and the Working Group think some degree of qualification is necessary. They now suggest expanding these references to read:

> "Develop the use of written Standard English except in contexts where non-standard forms are needed for literary purposes, for example in dialogue, a story or a playscript."

I have discussed this again with Brian. Our feeling is that this wording, while not ideal, can probably be lived with and it is not worth arguing the point further.

Content?

(PAUL GRAY)

7 June 1989
DA1ACX

PRIME MINISTER

GM SCHOOLS: CARDINAL VAUGHAN SCHOOL AND CARDINAL HUME

Kenneth Baker's minute at Flag A reports on his difficulties with Cardinal Hume in relation to an overwhelming vote at the Cardinal Vaughan School in favour of application for grant-maintained status. Cardinal Hume is refusing to make proposals to appoint the Foundation Governors and is therefore defying the law.

Mr Baker suggests that this challenge to the legislation cannot go unanswered. He is proposing to have a further meeting with Cardinal Hume to seek to persuade him to accept his legal duties. But his is not confident of success. Mr Baker seems to be looking for guidance from you as to whether, if Hume continues to resist, he should then proceed either:

- to issue a writ of mandamus;
  OR
- to take an early opportunity to amend the Education Reform Act so that he has powers to appoint the Foundation Governors.

Brian Griffiths has commented on this in his minute at Flag B. He strongly supports Mr Baker's firm stand and suggests that, if Hume cannot be persuaded, Mr Baker should be supported in whatever action is necessary to uphold the law.

Content for me to minute out indicating your hope that Mr Baker can persuade Cardinal Hume to co-operate but that, if he his not successful, agreeing he should then come forward with proposals for the most effective way of ensuring that the law is enforced?

Yes

pp PAUL GRAY
6 June 1989
DS3AJL

MT

cPO

10 DOWNING STREET

From the Private Secretary

6 June 1989

Dear Tom,

NATIONAL CURRICULUM: PROPOSALS FOR ENGLISH

The Prime Minister was grateful for your Secretary of State's minute of 2 June with which he enclosed the final report of the National Curriculum English Working Group.

The Prime Minister is content with the proposal to proceed to the first round of statutory consultations, subject to one point on the proposed attainment targets for writing set out in levels 6-9 of paragraph 17.34 of the report. In each of these cases she considers that the phrase "develop the use of written Standard English" should be substituted for "the use of UK Standard English where appropriate"; she believes it important to delete the words "where appropriate".

I am copying this letter to Stephen Williams (Welsh Office), David Crawley (Scottish Office), Stephen Leach (Northern Ireland Office) and to Trevor Woolley (Cabinet Office).

Yours,

Paul

Paul Gray

Tom Jeffery, Esq.,
Department of Education and Science.

PRIME MINISTER

6 June 1989

G-M SCHOOLS: CARDINAL VAUGHAN SCHOOL AND CARDINAL HUME

This is a delicate issue, despite the fact that the behaviour of the hierarchy of the Roman Catholic Church is little short of a disgrace. Indeed, the Cardinal is at present in defiance of the law.

The simple fact is that the educational bureaucrats of the Roman Catholic Church have been very close to ILEA. They share ILEA views on most educational issues - even though in some cases, this undermines what one might have thought of as the wider interests of the Church in education.

Their opposition to all contentious areas of government education reform (open enrolment, CTCs, G-M schools) has been hostile.

To further their aims they have succeeded in convincing the Cardinal that opting-out would undermine the spiritual authority of the Bishops - and that, therefore, this is the way in which the proposals should be attacked.

The legislation, however, is very clear on this point. Opting-out does not change the Catholic ethos of any Catholic school. The Catholic foundation would continue to own the property, appoint a majority of governors and have a veto over any decision to change the character of the school.

Opting-out, however, would give parents greater freedom of choice in areas which do not affect the religious character of the school - which is something the C of E and Graham Leonard have accepted quite happily. Opting-out is a matter of organisation not doctrine.

Recommendation

Kenneth Baker is right to stand firm on this issue. Hopefully, he can persuade the Cardinal to change his mind. If he does not, he should be fully supported in making sure that, in secular matters, the hierarchy of the Church is under, not above, the law.

Brian Griffiths

BRIAN GRIFFITHS

D

PRIME MINISTER 6 June 1989

NATIONAL CURRICULUM: DESIGN AND TECHNOLOGY WORKING GROUP

flap

These proposals cover new ground. They seem exciting and relevant. They will help lay the foundations for an enterprise society. They present a formidable challenge to teachers and to schools in recruiting teachers in this field.

Recommendation

As we have so little experience in this area, and as the proposals seem reasonably good, it would be right to accept the advice of Kenneth Baker and Peter Walker, and make an assessment after the proposals have had time to work.

Brian Griffiths

BRIAN GRIFFITHS

JD3AHA

PRIME MINISTER

NATIONAL CURRICULUM: ENGLISH

Kenneth Baker has now minuted you attaching the final report of the English Working Group, covering the whole of the 5-16 age range. An Order specifying targets and progress for Stage 1 - 5-7 year olds - is shortly to be made. But Mr. Baker now proposes also publishing quickly - and endorsing - the Group's recommendations for Stages 2-4 (i.e., 7-16 year olds).

Mr. Baker's minute, together with his proposed comments on the report is at Flag A. The (very weighty) Working Group report itself is at Flag B; you will not want to plough through this, but I have flagged up the summary of the relevant targets and programmes for study on speaking and listening, reading and writing in Chapters 15-17 respectively.

Brian Griffiths' minute at Flag C broadly welcomes the Working Group report. He recommends that you can accept the proposals subject to one amendment to the attainment targets for writing which would strengthen the references to Standard English.

Content to endorse the proposals subject to Brian's comment? ✓

PLCC.

PG

5 June, 1989.

PRIME MINISTER

5 June 1989

NATIONAL CURRICULUM: ENGLISH

The Working Group chaired by Professor Cox has now produced its final report, dealing with the teaching of English at both primary and secondary levels in schools. (The earlier report of last October dealt only with English at the primary level.)

Their first report came under considerable criticism from both yourself and the Secretary of State for being too vague and unconcerned with the teaching of grammar and Standard English.

This report is very much better although it is very long and has six appendices.

It argues the case for teaching Standard English in secondary schools though it rejects the teaching of Latinate English and the use of formal exercises in grammar such as parsing. With the decline of Latin in our schools, this is almost certainly a realistic approach even if it disappoints some. What is important, is that while it rejects Latinate English, it does not reject grammar. It lays down attainment targets and programmes of study which emphasise rigour.

The crucial question is whether the attainment targets and programmes of study which it specifies will raise literacy in our schools.

I believe that they will for three reasons:

- Unlike the preliminary report, this report is explicit

and strong on the need to teach Standard English - though it suggests that schools should have the responsibility to develop their own policies of how this should be done;

- the report puts up a strong defence against objections to the teaching of Standard English which have been put forward by English teachers;

- the attainment targets emphasise the importance of handwriting, spelling, grammar and effective speaking.

The report is very positive, even though it is not ideal. It will certainly force many English teachers to change the content of what they teach and also to re-examine their methods.

The only suggestion I have is that in levels 6-9 of the attainment targets for writing, the expression "the use of UK Standard English where appropriate", should be replaced with an expression such as "develop the use of written Standard English" being careful to delete the words "where appropriate".

Recommendation

Accept the proposals of the Working Group, subject to the above caveat.

BRIAN GRIFFITHS

SG5-2

PRIME MINISTER

GM SCHOOLS: CARDINAL VAUGHAN SCHOOL AND CARDINAL HUME

I am minuting to let you know of a difficulty I have run into with Cardinal Hume in relation to Cardinal Vaughan School, whose parents have voted overwhelmingly (95% in favour on a 92% turnout) to apply for GM status. You may have seen Thursday's Times Leader on the subject: I attach a copy for convenience.

2. Last year, I went as far as I reasonably could to meet the Cardinal's concerns short of conceding his wish for a veto on any GM school applications from a Roman Catholic School. That would have undermined the whole principle of parental choice. Under the provisions of the ERA, following a successful parental ballot, the existing governing body of a school has the duty to submit statutory proposals to me for decision. Those proposals must include the names of the proposed foundation governors of the GM School to be valid. In the case of Cardinal Vaughan School, it is for Cardinal Hume as Trustee of the school to appoint the foundation governors; and his appointments must represent a majority of the new governing body. In this way, the Church has a guarantee of the continuing Catholic character of the school.

3. The Cardinal has refused to appoint the foundation governors. I have pressed him to do so but so far he is standing his ground. He argues that he cannot with integrity take a step which he believes is contrary to the interests of the school itself and those of other Catholic schools, the good of all of which he is bound to promote. In effect he wants a veto. I have therefore consulted Treasury Counsel. His advice is quite clear and unequivocal: Cardinal Hume has

a public law duty to appoint the foundation governors in this case, and his failure to carry out that duty is open to challenge by way of judicial review. In particular he would be exposed to an order of mandamus.

4. I do not believe that we can leave this challenge to our legislation unanswered. If we were to take no action - and that, in Counsel's view, would leave my own position open to legal challenge - we can effectively wave good-bye to the prospects of establishing any significant number of Catholic GM schools. Unless I can convince the Cardinal otherwise, I shall either have to apply to the Courts to issue a writ of mandamus or take a very early opportunity to amend the Education Reform Act to enable me, in such circumstances, to appoint the foundation governors of a proposed GM school myself. I find neither option very palatable.

5. Cardinal Hume has now written to me proposing an early meeting and I shall try to use that occasion to bring him to accept his legal duties against the background I have described. But, I have to say I am not at all sure that I will succeed.

6. I am sending a copy of this minute to Patrick Mayhew.

KS.

KB 5 June 1989

DEPARTMENT OF EDUCATION AND SCIENCE

democracies must involve clear responses to Mr Gorbachov, but that need not translate into obsessive concentration.

HUME v. BAKER

Cardinal Basil Hume of Westminster and the Secretary of State for Education, Mr Kenneth Baker, have reached a stalemate concerning the fate of the Cardinal Vaughan school in central London. Mr Baker may now face the awkward choice of taking the cardinal to the High Court, or accepting that there was a serious loophole in the opting out procedure of the Education Reform Act when it reached the statute book last year.

It is a potentially embarrassing case for the Government – for, in effect, Mr Baker finds himself having to mediate in a dispute between Roman Catholic parents and their own bishop. It also has undesirable complications.

The Act's provisions for opting out of local authority control are already proving popular with parents all over the country. It applies to church schools as it does to the rest, but it was not the intention that parents might use it to escape from ecclesiastical control.

That is what Cardinal Hume sees as the main issue. He was in dispute with these parents long before the Education Reform Act was dreamt of, and the parents have used their right to opt out as the latest weapon in their battle.

At the heart of the quarrel is the long-term plan of the church education authorities in Cardinal Hume's archdiocese to create a sixth-form college by merging the sixth forms of several separate schools. It was claimed this would improve sixth form facilities for Catholic children; it was counter-claimed that this would damage a very good school, for the Cardinal Vaughan school would lose its own sixth form.

The cardinal and the parents have already gone several rounds in the ring. At an earlier stage he actually sacked some of the governors. It is a quarrel not just about parental rights against educational administrators; it also concerns the rights of lay Catholics against ecclesiastical authority, and the right of Catholic bishops to provide for the education of Catholics in their diocese.

Mr Baker is bound to feel that he would rather not be concerned with these elements in the dispute. But to ignore them would be to define the issues too narrowly. All those rights and duties are proper ones, and his problem is to resolve the conflict between them.

The great majority of parents have voted in favour of opting out, hoping by this ruse to avoid the loss of their sixth form. But the process has come to a stop because Cardinal Hume, as the school's trustee, is refusing to appoint governors.

The powers of a trustee in the case of a voluntary-aided school were included in the Act to meet the special needs of church schools. But it was not envisaged that a trustee might use those powers as the cardinal has done by, in effect, refusing to use them.

Mr Baker maintains that the cardinal has a duty to appoint the governors; the cardinal, that he cannot do so in good conscience. Without governors the school cannot further the opting out process. For only they can apply to the Secretary of State, on behalf of the parents, for grant maintained status.

A fight in the courts between a Secretary of State and a Cardinal Archbishop could result in a conflict between Roman Catholic canon law and English civil law. The civil law would win, of course, as Roman Catholic canon law has no standing in an English court, but it would be a result to be avoided.

If the cardinal, standing on his position in canon law, were to defy an instruction from the court to appoint governors against his better judgement, it would be possible that one of Britain's most distinguished churchmen be charged with contempt. Neither Cardinal Hume nor Mr Baker will want to entertain such a prospect.

It would be better for the cardinal to appoint a panel of governors who are loyal to him, as he has a perfect right to do, and then negotiate with them, opted out or not, to find an answer to the problem of a sixth form college. If Mr Baker can provide some disinterested mediator for such a solution, so much the better.

PASSPORT PROBLEMS

To the everyday hazards of foreign travel, like airport disputes and contra-flow systems on the motorway, has been added a strike at the passport offices. An indefinite stoppage began this week at Liverpool while clerks at the other four mainland centres may walk out tomorrow for 24 hours in sympathy.

The action has followed a long quarrel over manning levels. The Civil and Public Servants Association (CPSA) is demanding 381 more jobs nationwide, including 77 at Liverpool. The Home Office, which recognizes the need for an increase, has offered 158 more posts nationally, 45 at Liverpool.

But that is only one half of the dispute. The other involves the introduction of computers. Two of these have already been installed – at Glasgow last August and at Liverpool in December – to produce the new European Community passports.

The union says that the computers have not been working well. The Home Office agrees that they have not been running as smoothly as was hoped for. At Glasgow "adjustments" to the software have been made and similar work at Liverpool is planned. Meanwhile, [illegible]

rooted in old-fashioned trade-unionism. In complaining that the Liverpool computer has caused a 15 per cent drop in efficiency, they argue that *homo sapiens*, each one of course a member of the CPSA, could do the job much better.

This is nonsense. The passport "trade" is inevitably seasonal. The employment of casual labour in the summer, to cope with the sudden rush of would-be travellers, is a poor and partial remedy. It is a natural area for computerized processing and checks.

The present backlog of applications is said to be above 500,000. The waiting time is up to three months – with the worst queues at Liverpool, the passport office for the whole of northern England. Although the number of applications has risen as more and more British people travel annually, these mounting delays reflect a poor administration.

The CPSA's response, however, is worse. To reinforce its complaints about inefficiency it is taking action which is irresponsible and can only be [illegible]

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May 31.

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RONALD WA
Hayes Hill Cot
Slinfold, West
May 25.

V & A ho

From Mr Joe E
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answer them?

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Yours faithfully,
JOE EARLE (Hea
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Victoria & Albert M
South Kensington,
May 30.

From Mr Nicholas
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museum.
Yours faithfully,
NICHOLAS EGON,
34 Thurloe Square, Su

PRIME MINISTER

NATIONAL CURRICULUM; PROPOSALS FOR TECHNOLOGY

I attach the final report from the National Curriculum Design and Technology Working Group, chaired by Lady Parkes.

Peter Walker and I asked the Group to recommend attainment targets and programmes of study in both design and technology and also to provide within the National Curriculum a focus for the development of computer and information technology awareness. The Group has recommended four attainment targets for design and technology and one for information technology, each with ten levels of attainment to reflect pupils' different ages and abilities. It has also made very full recommendations for programmes of study, establishing what pupils should be taught.

The Report is very good. It tackles a relatively new area of the curriculum with originality and pragmatism. The recommended attainment targets and programmes of study structure and support the process of design and technological activity in a systematic way not previously attempted by most schools. They distil the more important aspects of subjects such as business studies and home economics which we have been criticised for omitting from the National Curriculum. They will help to bring together important skills and knowledge from many subject areas in a way that should make sense to industrialists. They provide a direct answer to those in industry and elsewhere who have feared that the National Curriculum is too subject-bound, narrowly academic and knowledge-based: there are numerous recommendations for practical applications and skills which are relevant to the workplace. But the Report is also strong on the conceptual basis for design and technological activity. Overall, what is recommended should be exciting and motivating to pupils right

across the ability range. Peter Walker and I propose to endorse without modification the Group's recommendations as our statutory proposals for attainment targets and programmes of study for technology. I attach a draft of our comments which, together with the Group's Report, should be published as our proposals and form the basis for the statutory consultations which Peter Walker must direct in Wales and the National Curriculum Council must now undertake in England. I shall be encouraging the National Curriculum Council to pay particular attention to ensuring that the attainment targets and programmes of study which the Council finally recommends are pitched at a demanding, but realistic level, particularly for primary schools, and that they make full use of the full range of materials.

We should like to publish our proposals as soon as possible so that consultations can begin before the end of the school year. I intend to ask the NCC for its report and recommendations by 3 November. As you know, we are then statutorily bound to consult again about a draft Order before laying the final Order before Parliament. Our timetable is directed towards enabling us to introduce the requirements in schools for 5, 7 and 11 year olds from Autumn 1990 and for 14 year olds from Autumn 1993. We should be grateful for your early agreement that we should proceed to the first round statutory consultations on this basis.

I am copying this minute to Peter Walker (W), to the Secretaries of State for Trade and Industry, Employment, Scotland, and Northern Ireland, and to Sir Robin Butler.

KB

2 June 1989

DEPARTMENT OF EDUCATION AND SCIENCE
(approved by the Secretary of State and
signed in his absence)

PRIME MINISTER

NATIONAL CURRICULUM; PROPOSALS FOR ENGLISH

Peter Walker and I are about to make an Order specifying attainment targets and programmes of study in English for pupils in key stage 1 (5-7 year olds), to be introduced in schools this autumn. I now enclose the final report of the National Curriculum English Working Group, which makes recommendations for key stages 2-4 (7-16 year olds).

The Group has produced attainment targets and programmes of study, in chapters 15-17 which provide a basis for consultation and refinement. The recommendations give a central place to grammar, by inserting knowledge about language as a distinct strand in speaking and listening, reading and writing, which can be tested. The Report as a whole is overlong and complex, but nevertheless makes strong and clear statements about the requirement for all pupils to learn to write and speak Standard English, and to be taught important linguistic terms. It asserts the role of good literature and imaginative writing, without neglecting solid reading, drafting and presentational skills including handwriting and spelling. The Report is clear about the need for proper written testing especially in the later stages of compulsory schooling.

We propose to endorse the Group's recommendations as the basis for attainment targets and programmes of study for English in key stages 2-4. I attach a draft of our comments which, together with Chapters 15-17 of the Report, should be published as our statutory proposals and form the basis for the consultations which Peter Walker is required to direct in Wales and the National Curriculum Council must now undertake

in England. I shall be encouraging the National Curriculum Council to do further work on examples to make what is required more specific, and to pay particular attention to ensuring that the attainment targets which the Council finally recommends challenge pupils and raise teachers' expectations of them. As in the case of the Design and Technology proposals on which I am minuting separately, we should like to publish our proposals as soon as possible. We are aiming for 22 June, and I intend to ask NCC for its report and recommendations by 10 November. That should put us on course to introduce the English requirements in schools for 7 and 11 year olds in Autumn 1990, and for 14 year olds in 1992.

We should be grateful for your early agreement as soon as possible after the weekend that we should proceed to the first round of statutory consultations.

I am copying this to Peter Walker, Malcolm Rifkind and Tom King and to Sir Robin Butler.

KB

2 June 1989

DEPARTMENT OF EDUCATION AND SCIENCE
(approved by the Secretary of State
and signed in his absence)

SECRETARIES OF STATE'S PROPOSALS FOR ENGLISH

FOREWORD

.....

The Education Reform Act provides for the establishment of a National Curriculum comprising core and other foundation subjects, to be taught to all pupils of compulsory school age in maintained schools, for each of which there are to be appropriate attainment targets, programmes of study and assessment arrangements. The Act defines attainment targets as:
'the knowledge, skills and understanding which pupils of different abilities and maturities are expected to have by the end of each key stage':
and programmes of study as:
'the matters, skills and processes which are required to be taught to pupils of different abilities and maturities during each key stage'.

The four consecutive key stages are the years of compulsory schooling which end when pupils in a class are 7, 11, 14 and 16. The Act empowers the Secretaries of State to specify attainment targets and programmes of study. Before they may draft Orders, they are required to make formal proposals in accordance with the provisions of the Education Reform Act. In England, the Secretary of State for Education and Science is required to make proposals to the National Curriculum Council (NCC) which in turn is required to consult, and then to make a report to the Secretary of State, containing a summary of views expressed on his proposals and the NCC's advice and recommendations. In Wales, the Secretary of State for Wales is required to give notice of his proposals to the Curriculum Council for Wales (CCW), and to any other persons with whom consultation appears to

him to be desirable. In the light of the NCC's advice and the outcome of the parallel consultations in Wales, the Secretaries of State proceed to draft Orders, allowing a minimum period of one month for further evidence and representations before the Orders are made.

This document contains the joint comments of the Secretaries of State for Education and Science and for Wales on the final report of the English Working Group, set up to make recommendations on attainment targets and programmes of study. The Secretaries of State's comments and the Report together represent the formal proposals for statutory attainment targets and programmes of study for English in key stages 2 to 4. An Order was made on 31 May 1989 giving effect to the statutory targets and programmes in key stage 1: these are not therefore the subject of the present consultations.

In England, views on the Secretaries of State's proposals should be sent to the National Curriculum Council (NCC) at ... by 6 October 1989.

In Wales, views should be sent to Schools Division 2, Welsh Office Education Department, Welsh Office, Cathays Park, Cardiff CF1 3NQ.

ENGLISH: PROPOSALS OF THE SECRETARIES OF STATE FOR EDUCATION AND SCIENCE AND FOR WALES

The origins and scope of our proposals

1. In April 1988 the Secretaries of State for Education and Science and for Wales appointed a Working Group to advise them on appropriate attainment targets and programmes of study for English. The Group was asked to report in two phases. Its first report, on English 5-11, was published in November 1988. Following consultations, the Secretaries of State made an Order on 31 May 1989 covering the targets and programmes in English for key stage 1 only. The Group's final report, submitted in May, builds on that and covers key stages 2 to 4, including a revision of its earlier recommendations for key stage 2 in the light of the key stage 1 Order and of the NCC's advice following the previous consultations.

2. The completion of the Group's work represents a considerable achievement. It is on the basis of the Group's advice on attainment targets and programmes of study that we now make jointly our formal proposals for key stages 2-4 in accordance with the provisions laid down in the Education Reform Act. The full text of the Working Group's Report is attached. References in this document are to chapter and paragraph numbers in the Report.

3. Our proposals are confined to attainment targets and programmes of study. They do not relate to assessment arrangements, although these are covered in the Working Group's Report. We are grateful to the English Working Group for the thought it has given to assessment issues. Its recommendations will be taken into account when, in the light of advice as

appropriate from the School Examinations and Assessment Council (SEAC), we come in due course to prepare Orders specifying assessment arrangements covering English. Immediately, however, these recommendations do not form any part of the present proposals which relate only to Orders under section 4(2)(a) and (b) of the Act for attainment targets and programmes of study.

4. The Report makes a number of comments on other matters, for example in relation to the resource and teacher training implications for English in the National Curriculum, and the need for non-statutory guidance for teachers based on its observations. We are grateful for the Group's advice on these points, which will be duly considered, together with any comments on it.

Objectives of the consultation exercise

5. The objective of the two different processes for statutory consultation in England and Wales is to produce clear recommendations in a form which can be put into draft Orders under section 4(2)(a) and (b) of the Act covering key stages 2 to 4. Our proposals for attainment targets and programmes of study are set out separately below.

THE PROPOSALS

Attainment targets

6. The Report outlines five attainment targets in English for most pupils in key stage 2, and four in key stages 3 and 4. The targets are designed to be appropriate, at different levels, for pupils of different ages and abilities. The Group has defined levels of attainment within targets and the statements of

attainment at the various levels specify what each pupil should know, understand and be able to do at the reporting ages of 11, 14 and 16. We propose that the targets and the associated statements of attainment at each level should b e included in the Orders for key stages 2 to 4 to be made under section 4(2)(a) of the Act. For ease of reference the targets, as set out in the Group's Report, are reproduced at the Appendix to our proposals.

Programmes of study

7. The purpose of programmes of study is to establish the matters, skills and processes in the context of which the attainment targets are to be assessed. The programmes of study in chapters 15 to 17 appear to offer a sound and comprehensive coverage of the essential content which pupils will need to tackle if they are to reach or surpass the attainment target. We therefore propose that the Group's recommended programmes of study should form the basis for the draft Order for key stages 2 to 4.

Application of Orders - special educational needs

8. In chapter 12 the Group makes recommendations concerning the modification or disapplication of some parts of some attainment targets and programmes of study and associated assessment arrangements for certain categories of pupils with special educational needs. We propose that these recommendations should form the basis of modifications made to attainment targets and programmes of study in Orders under section 4 of the Act and that, subject to those modifications, the attainment targets and programmes of study should apply to all pupils.

Application of Orders - Wales

9. In chapter 13 the Group suggests that, for pupils taught mainly through the medium of Welsh, programmes of study, but not

attainment targets, for English in key stage 2 will need modification to accommodate the matters, skills and processes which have been included in the English programmes of study for key stage 1 but have been disapplied in respect of such pupils in key stage 1. The Secretary of State for Wales proposes that these recommendations should form the basis of modifications made to the programmes of study for key stage 2 in Orders under Section 4 of the Act.

Commencement dates

10. We propose to introduce the attainment targets and programmes of study for pupils in the first year of each of key stages 2 and 3 in Autumn 1990, and of key stage 4 in Autumn 1992.

Education & Gen Policy PE 21.

ELIZABETH HOUSE
YORK ROAD
LONDON SE1 7PH
01-934 9000

The Rt Hon Norman Fowler MP
The Secretary of State for Employment
Department of Employment
Caxton House
Tothill Street
LONDON
SW1H 9NF

31 MAY 1989

EUROPEAN COMMUNITY: PROPOSED LINGUA PROGRAMME

Thank you for your letter dated 21 May. It did not arrive until after I had returned from the Council, which was on 22 May, and I was therefore not able to take account of it in my negotiations.

As you will have heard, I agreed at the Council to a programme of 200mecu overall on the legal base of Articles 128 and 235 and with the emphasis changed from schools to vocational education after the age of sixteen. I agree that we must now ensure that the programme delivers value for money, and we must use the strengthened management committee arrangements we have negotiated to that end.

How the reduced budget will be allocated between the different elements of the amended programme will fall to be considered by the management committee. I suggest that officials should consider the EUROPES attribution of the programme in the light of that. They should also discuss representation on the management committee itself, the agencies to be designated for the coordination and implementation of the programme in the UK and the involvement of your Department in the selection of the projects in which you have an interest.

I am copying this letter to the Prime Minister, the other members of OD(E), Peter Walker, Malcolm Rifkind, John Major and Sir Robin Butler.

EDUCATION: Policy
Pt 21

CONFIDENTIAL

10 DOWNING STREET

LONDON SW1A 2AA

From the Private Secretary

26 May 1989

Dear Tom,

TEACHER TRAINING

Thank you for your letter of 22 May.

Having seen the further detail on the proposals for licensed teachers and articled teachers, the Prime Minister is concerned about the likely small scale of the impact of these changes. For example, it would seem that in 1993 the articled teachers scheme would produce only some 2.5 per cent of newly trained teachers, with 97.5 per cent coming from traditional routes. The Prime Minister had envisaged on the basis of your Secretary of State's earlier minute of 3 May that the proposed new schemes would have had a greater effect.

The Prime Minister would therefore like to discuss your Secretary of State's proposals further, and would be grateful if your Secretary of State could put a further paper on this to the next meeting of E(EP) scheduled for 14 June.

I am copying this letter to the private secretaries to members of E(EP), Northern Ireland Office and to Trevor Woolley (Cabinet Office).

Yours,
Paul

PAUL GRAY

Tom Jeffery, Esq.,
Department of Education and Science

CONFIDENTIAL

PRIME MINISTER

TEACHER TRAINING

You will recall you have had various exchanges with Kenneth Baker over his proposals for teacher training.

You originally asked him to do a paper last November. He then discussed the subject briefly with you at a bilateral earlier in the Spring, which was followed up by a paper circulated to E(EP) (Flag A). Brian Griffiths suggested this was far too thin an analysis, and I minuted out on your authority asking for various points to be amplified (Flag B).

DES have now responded with their further letter at Flag C.

Brian continues to feel, however, that what is proposed is totally inadequate. You will want to go carefully through his further minute at Flag D. In brief his analysis is that Mr. Baker has come up with a mouse, and that something much more radical is needed.

If you agree with that assessment, you will want to consider how best to advance matters. Exchanges of correspondence are not getting us very far. So Brian suggests putting teacher training on the agenda for the next E(EP) meeting. We do in fact have a meeting of the Committee scheduled for 14 June, intended to take a paper on teachers' pay, but we could easily add teacher training to the agenda.

Content for me to minute out in the terms recommended at pages 4-5 of Brian's note at Flag D, indicating that you want teacher training put on the agenda of the next E(EP) meeting?

PRCG.

P. GRAY
25 MAY 1989

Yes

PRIME MINISTER

25 May 1989

TEACHER TRAINING

Teacher training is the one area of schools' policy which was not tackled in the Education Reform Act 1988. It remains the final piece of the jigsaw which needs putting into place.

It is also an area which has come in for outspoken criticism from such different sources as the HMI and Caroline Cox. Not only do teacher training colleges and Departments of Education need a major shakeup, but the whole approach to present teacher training needs re-thinking.

Teacher training is directly under the control of the DES. Not surprisingly HMI, teacher training colleges and teacher unions, will fight very hard to ensure that this final part of the secret garden will not be opened up to the public.

You first asked Kenneth Baker for a major E(EP) paper on this subject last November. He has released bits and pieces of a policy over the last six months, and has now sent you a two page minute. It is still far short of what you required.

Current Proposals

Although short and lacking in detail, they offer sufficient information to make a preliminary judgement.

The way to break the existing monopoly over teacher training is to create alternative routes to the established ones - hence the proposals for a licenced teacher scheme and an articled teacher scheme.

At present initial teacher training courses provide 12,000 teachers per year: in addition another 13,000 qualified teachers return to teaching each year. If the alternative routes are to make an impact then it is essential that within the forseeable future, the supply of new teachers through the alternative routes should rise to something like 25-30% of the new entrants to the profession (ie of 12,000).

Under the present proposals there is hardly any chance of achieving this.

(a) Licenced Teacher Scheme

Under this scheme, those who wish to enter teaching as a second career will be able to do so providing they demonstrate certain skills and possess certain qualifications.

The Secretary of State hopes that numbers coming in by this route might build up to 1000 or so, though it will be up to the LEAs and schools to decide on the numbers.

The financial arrangements backing up such a proposal are crucial. The salaries of new teachers who enter via this route will be funded from normal LEA budgets and their training costs will have to be met from the existing LEA Training Grants Scheme, which are not being increased. These training grants are being used at present to fund a number of important projects, such as improving teacher supply in shortage subjects, handling the national curriculum, dealing with special needs, TVEI-related developments, etc.

The problems with the proposed financial arrangements are:

a) LEAs will be reluctant to switch grants from existing areas to the licenced teacher scheme if they think they

can obtain new teachers through traditional routes or encourage others back into teaching;

b) in a new era of local financial management, schools may be reluctant to take on licenced teachers at full salary, when for the first year or two, they may be judged at a disadvantage to students who have completed the PGCE.

The upshot of all of this is that it must be doubtful whether the licenced teacher scheme will ever really get off the ground.

b) Articled Teacher Scheme

This is an apprenticeship scheme for younger graduates. It is to be launched experimentally in 1990 with six pilot schemes involving a total of 300 students each year. It is a two-year programme and will involve two cohorts before decisions are taken on its future. This means that the experiment will not end until the summer of 1993.

The total output from this new scheme will, therefore, be 300 new teachers in 1992 and 300 new teachers in 1993.

The Secretary of State is also very clear in his account of the scheme that:

a) the prime responsibility for making the scheme work rests with the LEA or G-M schools, but not DES;

b) responsibility for the training in the schools however rests with the teacher training institution, not the LEA.

Comment

1 Kenneth Baker has produced two schemes which are frankly very disappointing. In terms of an alternative supply of newly

trained teachers, both schemes are marginal.

The licenced teacher scheme might build up to 1000 but there seems no basis for this figure whatever: it is a figure plucked out from mid-air. Certainly the financial arrangements create no incentives which will ensure its success.

The articled teacher scheme will, in 1993, produce 2.5% of newly trained teachers. 97.5% will come from traditional routes!

2 The one lasting impression I received from the New Jersey scheme was the importance of the scheme being marketed from the centre. Although its implementation was dependent on the goodwill of local authorities, the scheme would never have got off the ground had there not been a few people at the centre who believed in it and felt a clear responsibility for selling it.

This attitude contrasts sharply with the present DES scheme. Under this scheme the teacher training institutions have been left with ultimate responsibility for the academic success of training. The LEAs have responsibility for the overall success of the scheme, but there seems little sense of urgency at the centre to make the scheme a real success.

Recommendations

1 Teacher training remains an important area which needs to be sorted out.

2 The current schemes are little more than window dressing: there does not seem a Ministerial will driving them on and committed to their success.

3 Writing to the Secretary of State has not produced a great deal: it might be better to put teacher training as an item on the agenda for the next E(EP) meeting.

Unless, however, Ministers are committed to changing the situation, the practical results could well be disappointing.

BG

BRIAN GRIFFITHS

ELIZABETH HOUSE
YORK ROAD
LONDON SE1 7PH
01-934 9000

Paul Gray Esq
Private Secretary
10 Downing Street
LONDON SW1

22 MAY 1989

Dear Paul

Thank you for your letter of 8 May responding to Mr Baker's minute to the Prime Minister of 3 May about teacher training. The Chief Secretary also wrote on 12 May.

Licensed teachers will be appointed to fill vacancies in schools. Their salaries will have to be funded from normal budgets and their training costs from the resources available to LEAs and schools, including the LEA training grants scheme, which are not being increased for this purpose. The Secretary of State will not control the number of places available. It will be for schools and LEAs to decide in the light of the candidates available how far they want to fill posts with licensed teachers as opposed to newly trained teachers, currently serving teachers or re-entrants to the profession.

In some parts of the country with particular recruitment difficulties or greater opportunities to recruit from industry or the armed services the take up may be greater than others. Formal targets would not be appropriate, at least at this stage. The quality of the candidates will be as important as the quantity in establishing the credibility of the scheme. The Secretary of State would be pleased if in the first few years the numbers coming in by this route built up to about double the 1,000 or so teachers a year coming in by the less effective entry routes it is replacing.

The articled teacher scheme is intended as an alternative route to teaching for more traditional younger graduates. It will initially be launched experimentally. The Department is aiming for about six pilot schemes, taking an average of about 50 entrants a year each.

To launch the articled teacher scheme the Secretary of State is inviting LEAs and teacher training institutions jointly to put costed proposals to the Department. The aim is a two year training in post leading to the PGCE. The teaching load of articled teachers would increase progressively through the

course. Most of their formal training would be delivered in schools by teacher trainers and experienced teachers specially selected and trained for their role. There would also need to be off-the-job training at the institution where students could work together. Students would have opportunities to visit and teach in schools other than their main teaching school to widen their experience.

The institutions involved will receive funding for the training given to articled teachers through the Funding Councils as they would for other students. The trainees will be paid a bursary. That and any necessary additional expenditure in the training school to increase or train their staff for this new role will be eligible for 65% grant under the LEA training grants scheme.

In considering proposals for pilot schemes we shall be looking for value for money and trying to get as close as possible to the present cost of one year's full-time training on grant plus the first year of teaching on a salary. With two cohorts entering a two year training the experimental scheme will span four financial years. Over that period we expect about £4 million of LEA expenditure to be supported by 65% grant from the resources available under the scheme, which are not being increased for this purpose.

The prime responsibility for making these schemes work will rest with the LEA, or the GM school where these are involved. The training institutions will have a stronger role in relation to the articled teacher scheme. It will be for LEAs and schools to put recommendations for the acceptance of individuals as licensed teachers to the Secretary of State. It will be for them to see that the teachers they have appointed as licensed teachers are suitably trained. They will put the recommendation for the award of qualified teacher status to the Secretary of State at the end of the period of training. In the case of articled teachers it will be for the teacher training institution to see that the students, who will be enrolled with them, are suitably trained in the schools. We shall be monitoring both schemes with HMI and seeking to ensure full collaboration between LEAs, schools and teacher training institutions.

I am copying this letter to the private secretaries of the other members of E(EP), the Secretary of State for Northern Ireland and the Secretary of the Cabinet.

Yours,

Tom

T B JEFFERY
Private Secretary

EDUCATION: Policy
A 21

LS/Z/45

Department of Employment
Caxton House, Tothill Street, London SW1H 9NF

Telephone 01-273 5803
Telex 915564 Fax 01-273 5821

Secretary of State

1. CDP - lwc
2. NBPM
PMcG
21/5

The Rt Hon Kenneth Baker MP
Secretary of State for Education
and Science
Department of Education and Science
Elizabeth House
York Road
LONDON
SE1 7PH

May 21

Rec'd. 23/5.

Dear Ken.

EUROPEAN COMMUNITY : PROPOSED LINGUA PROGRAMME

Following your letter of 27 April about our approach to the LINGUA programme, on which the Prime Minister's Private Secretary and Geoffrey Howe have written, I understand the Commission now seem likely to back down on their attempt to extend Community competence in the field of school education. I have seen John Major's letter to you of 10 May, and in the light of that I thought I should reinforce his concern to avoid any additional spending on the remaining elements of the programme.

Indeed, I am not yet convinced that even 150 million ecu is justified. As well as an inflated budget, one result of the Commission's persistence with Article 128 as a legal base for expenditure programmes is that we cannot insist on a proper scrutiny of proposals. The sums suggested for LINGUA are substantial, but we have yet to see any studies which suggest the proposed arrangements would provide added value. It is also most unsatisfactory; we still apparently do not have final estimates for each element in the programme, or firm details of what they would entail.

Your letter suggested that my Department should bear the EUROPES attribution of the action related to vocational

Secretary of State
for Employment

training in firms, and mentioned a programme figure of 24 million ecu based on the January proposal. That, and slightly later drafts make clear that part of this sum would be used to support concerns falling within both your responsibilities and also David Young's, such as aids to self-learning methods to help the linguistic preparation of exchange students and exchanges of representatives of professions. I note that your suggestion of a compromise settlement envisaged reductions in this and other Article 128 actions but with some new elements within your responsibilities.

Given the other pressing demands on my Department's overall resources, and John's request to fund contributions for LINGUA from domestic PES savings, I would much prefer a course which avoided my Department having to participate. I hope you will insist on the need for Article 235 as the legal base, and use that to press for reductions, or preferably for some firm evidence that spending through the Community will provide better value for money in this area than our domestic programmes. Even if this could be made available, I would still want to devote at most 2 million ecu in total over the five years to this programme, and I would of course expect my officials to be involved directly in selection of potential projects. I hope you will be able to take account of this in your negotiations.

I am copying this letter to the Prime Minister, the other members of OD(E), Peter Walker, Tom King, Malcolm Rifkind and Sir Robin Butler.

NORMAN FOWLER

Education - Policy PV 21

Northern Ireland Office
Stormont Castle
Belfast BT4 3ST

K Baker Esq
Secretary of State for
Education and Science
Elizabeth House
York Road
LONDON
SE1 7PH

19 May 1989

Dear Ken,

EUROPEAN COMMUNITY: PROPOSED LINGUA PROGRAMME

Your letter of 27 April refers.

From the Northern Ireland viewpoint, and subject to the usual public expenditure constraints, I am content with the line you propose to take at the Education Council on 22 May. It is important that the UK does not concede that the European Community has competence to legislate in matters relating to school education and I fully acknowledge that any LINGUA programme should have as its legal base Article 235. I am keen, however, to ensure that we in Northern Ireland can continue to encourage young people to develop their understanding of continental Europe. It is of course more difficult and costly for them to visit mainland Europe than their peers in the rest of the UK given the distances involved. I therefore very much hope that it will be possible for a satisfactory way forward to be found for the LINGUA programme to proceed on the basis that, in addition to the actions covered by the Article 128 decision, support for student exchanges through integrated study programmes in sub degree vocational education can be agreed.

I am copying this letter to the Prime Minister, the Foreign Secretary, the other members of OD(E), the Secretaries of State for Wales and Scotland, the Chief Secretary and Sir Robin Butler.

Yours

TK

Education : Gen Pol

Pl 21.

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UNCLASSIFIED

CC P[illegible].

[illegible]
[illegible]
15/5

Treasury Chambers, Parliament Street, SW1P 3AG

The Rt Hon Kenneth Baker MP
Secretary of State for Education and Science
Department of Education and Science
Elizabeth House
York Road
London
SE1 7PH

12th May 1989

Dear Ken,

TEACHER TRAINING

Thank you for sending me a copy of your minute of 3 May to the Prime Minister. I have also seen the response from her Private Secretary asking you to amplify your proposals on several aspects of the teacher training initiatives.

I would like to add a further request of my own, which is for a full assessment of the likely costs of the articled teachers scheme. I am, of course, assuming that there will be no need for additional expenditure as a result of these proposals - given that articled teachers will be paid a bursary by LEAs; and that LEA funding will fall to be determined with other priorities with the LEA Training Grants Scheme - but I would be grateful if you could confirm that my assumption is correct.

I am copying this letter to other members of E(EP), Tom King and Sir Robin Butler.

Yours Ever,
John

JOHN MAJOR

Education
Gen Policy
P121

cst.ps/4jm10.5/lets

1. CDP - to see
2. NBPM
RRWB
10/5

Treasury Chambers, Parliament Street, SWIP 3AG

The Rt Hon Kenneth Baker MP
Secretary of State for Education and Science
Department of Education and Science
Elizabeth House
York Road
London
SE1 7PH

10 May 1989

Dear Secretary of State,

LINGUA PROGRAMME

Thank you for my copy of your letter of 27 April to Geoffrey Howe. I have seen his reply of 28 April and the letter of 2 May from the Prime Minister's Private Secretary.

Article 128 of the Treaty is a manifestly improper legal base for an expenditure programme. I believe that at COREPER on 11 May and the Education Council on 22 May we should insist on the inclusion of Article 235 and make clear our intention to go to the ECJ if Decision A were to be adopted on any other basis.

I am sure that on grounds of competence you are right to seek to block Decision B. We should not be afraid to use the leverage which the requirement for unanimity gives us. In this connection, I am not sure that we should agree to additional expenditure under Decision A in the event of Decision B falling. Any such trade off would run counter to the need to minimise the budgetary implications of the programme.

As regards public expenditure, I should caution against proceeding on the basis that any additional resources will be made available in any year to meet the UK's contribution to the programme. Under the EUROPES arrangements, I must look to you (and to Norman Fowler if he is prepared to share the responsibility) to make savings in your domestic PES programmes to cover the UK's net financing cost in excess of EUROPES baseline provision.

EDUC: Gould pt 21

Finally, I fully endorse the view that detailed financial estimates should be contained in the body of the Decision, not just the recitals. Moreover, I think we should press for a declaration by the Commission that expenditure on the programme will be contained within the existing ceiling for so-called "other policies" in line 4 of the financial perspective attached to the Inter-Institutional Agreement. The Germans, at least, should support us.

I am copying this letter to the Prime Minister, Geoffrey Howe, members of OD(E), Peter Walker, Tom King, Malcolm Rifkind and to Sir Robin Butler.

Yours sincerely,

P. Wales

pp JOHN MAJOR

[Approved by the Chief Secretary and signed in her absence.]

PM3AOE P

cc PC

10 DOWNING STREET

LONDON SW1A 2AA

From the Private Secretary

8 May 1989

Dear Tom,

TEACHER TRAINING

The Prime Minister has seen your Secretary of State's minute of 3 May.

She feels that there are a number of aspects on teacher training initiatives that need to be more fully spelled out for the proposals to be properly assessed. These include:

- the target numbers of new teachers who will enter the profession via the new schemes of "licensed teachers" and "articled teachers";

- details of the way in which the articled teachers scheme would work: including the structure of training - both within the school and at teacher training institutions - the financing of the scheme, and the responsibilities of the Department;

- who will have responsibility for ensuring that these new schemes work - who effectively 'owns' them?

She would be grateful if your Secretary of State could amplify his proposals on these points.

I am copying this letter to the Private Secretaries to members of E(EP), Stephen Leach (Northern Ireland Office) and Trevor Woolley (Cabinet Office).

Yours,

PAUL GRAY

Tom Jeffery, Esq.,
Department of Education and Science.

PRIME MINISTER

TEACHER TRAINING

Following your bilateral with him, you asked Kenneth Baker to provide a more detailed paper on teacher training and to circulate it to E(EP). Meantime you agreed to various detailed changes in the operation of CATE.

The minute at Flag A is the result. But it is in fact virtually the same as the original minute he sent you with no further details. Brian Griffiths (Flag B) feels the minute is inadequate; he mentions a number of key issues not covered.

No other colleagues have yet commented on the paper. Content for me to minute out asking Kenneth Baker (again) to provide more detail, in particular on the key issues identified by Brian?

RLCG. Yes please

P. GRAY
5 MAY 1989

MRMAAJ

PAUL GRAY

5 May 1989

TEACHER TRAINING

The minute from Kenneth Baker to the Prime Minister is a quite inadequte response to a re-thinking of government policy on teacher training and supply.

Key issues not dealt with include:

- the target numbers of new teachers who will enter the profession via the new schemes of "licensed teachers" and "articled teachers";

- details of the way in which the articled teachers scheme would work: including the structure of training both within the school and at teacher training institutions the financing of the scheme, the responsibility of DES (or someone else for marketing the scheme);

- who will have responsibility for ensuring that these new schemes work - who effectively 'owns' them?

My major concern is that these new schemes will be something of a damp squib, having very little impact on teacher supply. Unlike the discussions on CTCs, G-M schools, open enrolment, the national curriculum and local financial management, the Secretary of State seems uncharacteristically reticent about providing crucial details. It is vital that we obtain them.

We probably have worked them out ourselves but

Brian Griffiths

BRIAN GRIFFITHS

PRIME MINISTER

TEACHER TRAINING

1. I am minuting to inform you and colleagues about my plans for two major aspects of teacher training:

(1) the review of the system for the approval of courses of initial teacher training

(2) new initiatives to make teacher training more flexible, more responsive to the needs of teachers and schools and more directed to the problems of teacher shortage.

APPROVAL OF COURSES OF INITIAL TEACHER TRAINING

2. I have reviewed the operation of the Council for the Accreditation of Teacher Education (CATE), which Keith Joseph set up in 1984. Much has been achieved but more remains to be done. I wish to introduce tougher criteria for the approval of courses of initial teacher training (ITT) and to improve the machinery for applying them. These criteria will incorporate where possible statements as to the competences to be expected of a student teacher who has successfully completed a course.

3. I am proposing that much of the detailed work of the Council in scrutinising courses should be delegated to local committees. I shall take steps to ensure that these committees exercise an independent and objective judgment. They will have clear terms of reference and will report to the Council. The Council will, as now, be responsible for

offering me advice on course approval. I want the new Council to advise me regularly not only on courses but on how we can progressively tighten up the criteria. They are minimum thresholds and by raising them we can lever up quality.

4. I plan to implement these changes when the term of office of the present members of CATE expires at the end of this year. I shall need to consult widely on some of the details and it will also take some time to get the new arrangements into place. The Opposition tabled a Supply Day motion on teacher shortages yesterday in which, as we agreed over the weekend, I announced that I shall be issuing a consultation document.

TEACHER TRAINING INITIATIVES

5. I also want to make teacher training more attractive to people with the right qualities and aptitudes for whom present methods of entry are, for one reason or another, unsatisfactory. There are two particular schemes which I regard as highly important. One, for "licensed teachers", was the subject of a consultation document last year and I plan to introduce the scheme this September. The other, for "articled teachers", is an experimental scheme which I announced in outline in a speech in January. This is intended to start in September 1990.

(a) Licensed teachers

6. The target here is to make it possible for mature people who already have some higher education, but who may well have family commitments, to train on the job. This is particularly aimed at people who want to change their career into teaching in their 20's, 30's and 40's. Unlike students on a conventional postgraduate certificate of education (PGCE) course they will receive a salary, and their training will be the responsibility of the LEA rather than an ITT institution. There will be a lower age limit of 26. The LEA will apply to

the Department for the grant of a licence, and will be expected, in cooperation with the school concerned, to arrange a training programme enabling the licensed teacher, by the end of the 2 year period of the licence, to acquire all the competences towards which all forms of teacher education will be directed. In providing the training tailored to the circumstances of each entrant - some may have useful teaching experience but not a degree level subject qualification, while others may have a degree but no experience in school - LEAs will be expected to draw appropriately on the resources of ITT institutions. I intend to publish the necessary draft regulations in the course of this month, so as to permit recruitment of the first licensed teachers in September this year.

(b) Articled teachers

7. My target here is recent graduates who want to move directly into schools rather than spend another year mainly in a college, polytechnic or university doing a conventional PGCE. I envisage that these articled teachers would do 2 years school-based training, on some kind of salary, but would at the same time have close links with an ITT institution which would award them a PGCE when they had successfully completed that training. The arrangements for articled teachers will need to be agreed by LEAs, schools and ITT institutions, so that the new teachers can gain the proper balance of practical experience and instruction in teaching method in a supportive environment. There has already been an encouraging response from LEAs and ITT institutions to these ideas, and I shall shortly be inviting bids for pilot schemes - which will be supported under the LEA Training Grants Scheme - over the period 1990 to 1994.

(c) Consistency of Quality

8. I shall provide clear statements of the competences expected from trainees who emerge from these alternative training routes into teaching. The competences will be

aligned with those in the main criteria for course approval to ensure consistency of quality. By meeting the demands of particular students and employers more accurately and by recognising the importance of a flexible and practical approach to training, the new routes into teaching will over time improve the overall quality of the profession.

POLICY EVALUATION

9. We shall of course need to evaluate the impact of these policies. One obvious measure is success in recruitment against target into initial teacher training in total and in the shortage subjects in particular. A further measure is recruitment and retention of teachers in schools. These measures are not entirely straightforward to interpret and in seeking to meet our targets we must not sacrifice quality to quantity. Nonetheless we shall have to pay close attention to them, not least because there will be much interest in them from the wider public.

10. I am copying this minute to the other members of E(EP), the Secretary of State for Northern Ireland and Sir Robin Butler.

KB

3 MAY 1989

DEPARTMENT OF EDUCATION AND SCIENCE

File KK?

10 DOWNING STREET
LONDON SW1A 2AA

From the Private Secretary

2 May 1989

Dear Tom,

NATIONAL CURRICULUM:
GEOGRAPHY WORKING GROUP

The Prime Minister was grateful for your Secretary of State's minute of 27 April. She is content for him to proceed with the proposed appointments.

I am copying this letter to Keith Davies (Welsh Office), Peter Storr (Home Office), Ann-Marie Lawlor (Department of Employment), Ben Slocock (Department of Trade and Industry), Alan Ring (Department of the Environment), Uriel Jamieson (Scottish Office), Stephen Pope (Northern Ireland Office), and to Trevor Woolley (Cabinet Office).

Yours,
Paul

(PAUL GRAY)

Tom Jeffery, Esq.,
Department of Education and Science.

MCW

FILE KAHAUV

bc BS

10 DOWNING STREET

LONDON SW1A 2AA

From the Private Secretary

2 May 1989

TEACHER TRAINING

Thank you for your letter of 28 April which the Prime Minister has seen. In the light of that further material, she is content for your Secretary of State to proceed with an announcement of the revised CATE arrangements, in the context of today's Commons debate. She has noted that your Secretary of State will, in accordance with my earlier letter of 27 April, be circulating a further paper to E(EP) putting forward detailed proposals on alternative means of entry into the teaching profession.

(PAUL GRAY)

Tom Jeffery, Esq.,
Department of Education and Science.

PG

FILE KK40

10 DOWNING STREET
LONDON SW1A 2AA

From the Private Secretary

2 May 1989

Dear Tom,

EUROPEAN COMMUNITY:
PROPOSED 'LINGUA' PROGRAMME

The Prime Minister has seen your Secretary of State's letter of 27 April to the Foreign Secretary, and his response of 28 April.

The Prime Minister welcomes your Secretary of State's intention strongly to resist any extension of Community competence in the field of school education, and strongly supports his proposed action on the Lingua programme.

I am copying this letter to the Private Secretaries to Members of OD(E), the Secretaries of State for Wales, Northern Ireland and Scotland, the Chief Secretary and Trevor Woolley (Cabinet Office).

Yours,
Paul
(PAUL GRAY)

Tom Jeffery, Esq.,
Department of Education and Science.

MCR

DA2AAB

PRIME MINISTER

TEACHER TRAINING

Following your bilateral with Kenneth Baker earlier in the week you had a further look at his paper on teacher training (Flag A). In the light of comments from Brian Griffiths you agreed I should write out in the terms of my letter at Flag B. This asked Kenneth Baker to circulate detailed proposals to E(EP) on alternative means of entry into teaching, and raised doubts about the proposed local committees coming under the Council for the Accreditation of Teacher Education (CATE).

DES have told me this evening that there is a half day debate in the House next Tuesday on teacher training. They had been hoping in parallel with this debate to publish full details of the proposed teacher training changes. I have told them that, in view of your comments, that will not be possible. As regards alternative means of entry into teaching, Kenneth Baker has agreed that he will say no more in the debate than he has already said e.g. to the Select Committee, and he will indeed come forward with a paper to E(EP).

But as regards CATE, Mr. Baker is keen to be a bit more forthcoming in the context of Tuesday's debate. I think the main point that was concerning Brian Griffiths about the proposals was the danger of the local committees being "captured" by local teacher training colleges. I have explained this to DES and they have now sent me a further letter this evening (Flag C) that provides some degree of reassurance on this point. In particular he proposes that there would be strong local business representation on the local committees and teacher trainers would not be in the majority.

(i) In the light of the Flag C letter, are you content for DES to proceed with announcement of the revised CATE arrangements? OR Yes - it will help in the debate

(ii) Would you prefer a fuller paper before anything further is said?

AR C6.

(PAUL GRAY)

28 April 1989

GrayM.R

ELIZABETH HOUSE
YORK ROAD
LONDON SE1 7PH
01-934 9000

Paul Gray Esq
Private Secretary
10 Downing Street
LONDON SW1A 0AA

28 April 1989.

Dear Paul

TEACHER TRAINING

attached

Following your letter of 27 April, you asked for further information on the role of the local committees in the proposed new arrangements for the approval of courses of initial teacher training.

We are proposing, in the consultation document, that these committees would have a formal constitution, which would provide their terms of reference and composition of membership.

They would apply the revised approval criteria under the supervision of reconstituted Council for the Accreditation of Teacher Education. They would also:

(a) cover between 5 and 10 institutions each

(b) include strong representation of the local business community, practising school teachers and LEAs, as well as teacher trainers. The teacher trainers would not be in the majority and would not take the chair.

(c) submit their appointments to the Council for confirmation.

(d) report all their cases to the Council, who would be responsible for the final advice to the Secretary of State, who would still, as now, take the final decision on any course.

The Council would also study in detail a sample of the courses each committee would otherwise have handled.

Yours ever,

Tom.

T B JEFFERY
Private Secretary

Educ: 101 pt 21

PRIME MINISTER

EUROPEAN COMMUNITY: PROPOSED 'LINGUA' PROGRAMME

When you talked to Kenneth Baker earlier in the week, he undertook to write around to colleagues setting out his proposed objection to the Commission's proposals for extending their influence into educational matters. His letter at Flag A to the Foreign Secretary fulfils that remit.

The Foreign Secretary has now responded at Flag B, agreeing to this approach. Brian Griffiths (Flag C) welcomes Kenneth Baker's letter. He suggests that you should record your welcome for it, and emphasise the importance of identifying at an early stage potentially troublesome items of Commission involvement in domestic affairs-essentially the message you gave Cabinet on Thursday.

Content for me to minute out in the terms Brian suggests?

Yes please

PAUL GRAY
28 April 1989

KKlAPA

FCS/89/074

SECRETARY OF STATE FOR EDUCATION AND SCIENCE

LINGUA Programme

1. Thank you for your letter of 27 April about Community discussion on the LINGUA programme.

2. I strongly agree on the importance of language training in the UK. We are lagging behind at present, and I support the action you are taking. We need to ensure that we are well-placed to compete in the 1992 Community.

3. I therefore agree that we should support the first part of the LINGUA programme on higher education and vocational training, with the important qualifications you mention, particularly the need for a dual legal base. But I also share your concern about the Commission's proposals on primary and secondary education, and agree that we should oppose the second part of the proposal. The Community has no competence in this area, and should not be encouraged to acquire it.

4. Subject to the views of other colleagues, I shall instruct Sir David Hannay to take this line in COREPER next week. Other states are likely to continue to support the whole programme, and the Spanish (and others) may not be

/prepared

prepared to accept the UK position without a fight. If it is agreed to proceed with the first part of the programme and dispense with the second, there may be a move to use some of the funds at present designated for school language training for measures in the higher education or vocational field. I hope that, if this were to happen, the DES could support a modest increase in the Decision A funding along the lines you have already suggested.

5. I am copying this minute to the Prime Minister and to other members of OD(E), the Secretaries of State for Wales, Northern Ireland and Scotland, the Chief Secretary and Sir Robin Butler.

(GEOFFREY HOWE)

Foreign and Commonwealth Office

28 April 1989

Educator - Pdwy PV20

10 DOWNING STREET

LONDON SW1A 2AA

From the Private Secretary

27 April 1989

Dear Tom,

TEACHER TRAINING

The Prime Minister has now had an opportunity to consider further your Secretary of State's minute of 24 April, which they briefly discussed earlier in the week.

She generally welcomes his proposals, but would be grateful if he could put forward detailed proposals to E(EP) on alternative means of entry into the teaching profession; she feels it important that the detailed arrangements should ensure that the objective of a significant proportion of potential teachers entering via alternative routes is achieved.

As regards the Council for the Accreditation of Teacher Education, the Prime Minister has some concern about proposed scrutiny of courses being delegated to local committees. She thinks it would be important to ensure that the courses are judged objectively, and has commented that the choice of the Chairman of the new Council will be a crucial appointment.

I am copying this letter to Stephen Williams (Welsh Office) and Stephen Leach (Northern Ireland Office).

Yours,

Paul

PAUL GRAY

Tom Jeffery, Esq.,
Department of Education and Science.

CONFIDENTIAL

CEPU

Prime Minister

Brian Griffiths has no comments on this. Content to agree these proposed appointments of members of the Geography Group?

RHC
28/4

PRIME MINISTER

NATIONAL CURRICULUM: GEOGRAPHY WORKING GROUP

I set out proposals for the Chairmanship and terms of reference for the National Curriculum Geography Working Group in my minute of 23 March. I am pleased to say that Sir Leslie Fielding has agreed to chair the Group, with Professor David Thomas as Vice-Chairman.

I propose to announce the establishment of the Group, its terms of reference, the appointment of Sir Leslie Fielding and the names of the majority of its members on Tuesday, 2 May. Those we propose to appoint are as follows:

Mrs Kay Edwards, Head of Geography, Penglais Comprehensive School,Aberystwyth
Mrs Wendy Morgan, recently retired Head of Elmsett Primary School,Suffolk
Dr Keith Paterson, senior lecturer in geography,Liverpool Institute of HE
Mrs Eleanor Rawling, director, Geography Schools and Industry Project
Mr Michael Storm, staff inspector for geography and environmental education,ILEA
Mr Rex Walford, lecturer in geography and education,University of Cambridge.

Angela Rumbold has seen all these people and is satisfied that they will contribute constructively to the Group's work.

This is a strong group, covering most aspects of geography. We intend to supplement it, however, by appointing someone with a background in industry, someone prominent in the environmental field, and a writer on travel or places. We have good potential candidates whom Angela will be interviewing, but as interviews cannot be arranged in the near future I prefer to proceed with setting up the Group now. We have already had to defer the date for the Group's final report until the end of April 1990, though this will not delay implementation in schools.

The Secretary of State for Wales agrees with these proposals.

I am copying this minute to Peter Walker, Douglas Hurd, Norman Fowler, David Young, Nicholas Ridley, Malcolm Rifkind, Tom King and to Sir Robin Butler.

KB

KB
DEPARTMENT OF EDUCATION AND SCIENCE

27 April 1989

Education Policy
Part 2

PRIME MINISTER 27 April 1989

EUROPEAN COMMUNITY: PROPOSED 'LINGUA' PROGRAMME

Kenneth Baker's letter is an excellent follow-up to the firm agreement at your recent bilateral with him that we should strongly resist any extension of Community competence in the field of school education.

I therefore suggest that you send him a letter, copied to others, welcoming his determination to take prompt action.

This case simply underlines the importance of ensuring that your attention is drawn at an early stage to potentially troublesome items of Commission involvement in domestic affairs, where a firm steer at the outset will almost certainly help avoid misunderstanding and recrimination later.

Brian Griffiths

BRIAN GRIFFITHS

ELIZABETH HOUSE
YORK ROAD
LONDON SE1 7PH
01-934 9000

The Rt Hon Sir Geoffrey Howe QC MP
Secretary of State for Foreign
and Commonwealth Affairs
Foreign and Commonwealth Office
Downing Street
LONDON
SW1

27 APR 1989

Dear Geoffrey,

EUROPEAN COMMUNITY: PROPOSED 'LINGUA' PROGRAMME

A proposal for Council Decisions to promote the teaching and learning of Community languages - the LINGUA programme - was submitted by the Commission on 6 January and has since been considered by the Education Committee. It is to be discussed in COREPER on 2 May and the Presidency intends that it should come before the Education Council on 22 May. This letter seeks your agreement and that of other colleagues concerned to the line the UK representatives should take at these meetings.

The LINGUA programme has been proposed by the Commission in two separate but related draft Decisions, one based on Article 128 of the Treaty, requiring only a simple majority, and one on Article 235, requiring unanimity. This artificial structure was devised largely to leave open the option of a vote on a simple majority on the Decision based on Article 128 if unanimity on the whole programme could not be achieved. We have already made it clear that we do not regard Article 128 as an adequate legal base for any part of the proposal involving a significant expenditure programme. If a Decision were to be voted through on that basis we should have to go to the European Court again. It would be helpful if the decision of the Court in the similar ERASMUS and Youth Training Programme cases were to be available before the Council.

The draft Decision based on Article 128 proposes Community actions and expenditure programmes which include:

- grants for the in-service training of language teachers,

- programmes of co-operation in Community language studies between higher education institutions,

- grants to allow language students to study abroad,

- grants for study visits for higher education teachers, and

- support for the development of language training in firms.

These are to be in support of member states' policies to:

- encourage young people to acquire a working knowledge of two Community languages in addition to their mother tongue,

- promote language studies as an integral part of higher education,

- encourage arrangements for trainee and serving language teachers to study abroad, and

- encourage employers to provide language learning opportunities at the work place.

The draft Decision based on Article 235 proposes Community action and expenditure programmes which include:

- financial aid for educational exchanges,

- financial aid to support the teaching of the less widely taught Community languages,

- financial aid to support the intensification of language teaching in schools and to promote particular curricula, and

- financial and other support for bodies to be designated by each member state to be responsible for the promotion of the objects of the LINGUA programme.

These are to be in support of member states' policies to:

- encourage all school pupils to study at least one Community language in addition to their mother tongue, and to have the opportunity of studying a second,

- give increased priority in school curricula for communication skills in Community languages,

- provide incentives for pupils to participate in organised educational exchanges, and

- include, where appropriate, evidence of competence in another Community language as a condition of entry to higher education.

There is at least room for argument as to how far the policies proposed for member states constitute binding requirements, despite Commission claims that they are not intended to be so, but their force has been much weakened in later Presidency redrafts following discussion in the Education Committee. It would therefore probably be possible to reach acceptable compromises on any formulae about policy in member states in any part of the programme we were disposed to accept.

The total cost of the programme is estimated by the Commission at 250 mecu over five years, of which about 150 mecu would be attributable to the Article 128 Decision and 100 mecu to the Article 235 Decision. The Commission has produced a breakdown of expenditure between each of the various actions but not, except in the broadest terms, for each year of the programme separately. Officials have already circulated the detailed figures. The Parliament has now proposed that the estimate should be increased to 300 mecu and suggested a number of other unhelpful amendments.

If a LINGUA programme is agreed I would expect the Department of Employment to bear the EUROPES attribution of those actions related to languages in vocational training for firms - the current proposal is for 24 mecu over five years - and for the territorial Departments to bear a proportionate share of the education parts of the programme. In the first year of the programme, when the additional costs would be limited, I would be prepared to accommodate my Department's share within the resources available following the annual Public Expenditure Survey, but I should need to seek additional resources to cover my Department's share of the costs for later years.

Because of the importance I attach to language training in the context of the development of the National Curriculum I have considered my position in relation to the LINGUA programme very carefully. We are at present well behind our major competitors in the Community in our teaching of modern languages and this must limit our ability to benefit from the completion of the internal market. At the same time it is clear that English is already the first foreign language of much of the Community and we should do nothing to put that at risk.

My own policies for the promotion of modern languages are clear. As the National Curriculum is implemented all pupils will, for the first time, be required to study a modern language from 11-16 and schools will be obliged to offer a European Community language as their first foreign language. I am using special grants to encourage schools to offer a wider range of modern languages, but we have to have regard to other major world languages - Russian, Arabic, Japanese - and to the many ethnic minority mother tongue languages that are spoken in our schools, as well as to Community languages. We already have an active and growing programme of language related school visits and exchanges organised by the Central Bureau, which is funded by my Department. We have achieved this without having to provide subsidies for the travelling costs of individual pupils and I do not want Community programmes to set potentially expensive precedents to the contrary.

More important, I do not believe that we should agree to any Decision that allows the Commission to become active in the field of school education. Of course it is possible to argue that the promotion of modern language teaching is relevant to the completion of the internal market. But that is a seductive first step on a slippery slope that could, at the extreme, lead to proposals for curriculum harmonisation as a basis for a common vocational training policy and in the interest of the free movement of workers.

I therefore propose that our line on the LINGUA programme for COREPER on 2 May and, subject to the outcome of COREPER, for the Council on 22 May, should be as follows:

(i) The UK fully agrees with the importance of promoting modern language teaching and learning in the Community. Its own curriculum policies already demonstrate this.

(ii) But it is important to distinguish the responsibilities of the Community and of individual member states. The Community should not start to legislate - this would be the first time - in matters relating to school education. Arguments based on the completion of the internal market are the thin edge of a wedge. Schools policy and expenditure, including pupil exchanges, should be left to member states.

(iii) The Community has a proper role in relation to vocational training policies. It is possible to develop a coherent and sensible LINGUA programme in the field of vocational education and training or in related areas covered by existing precedents, such as the ERASMUS programme - ie basically the present components of the Article 128 decision.

(iv) Article 235 must be included in the legal base. The UK does not believe that Article 128 alone can constitute an adequate legal base for a major expenditure programme. If the Council were to adopt a Decision based on Article 128 alone the UK would reserve its right to pursue the matter before the European Court.

(v) Any policy guidelines or principles in any Decision that might be adopted should not be binding on member states. In particular, we could not contemplate a commitment to encourage young people to acquire a working knowledge of two Community languages in addition to their mother tongue, or to extend language teaching to primary schools.

(vi) Any agreed programme should be subject to a management and not an advisory committee.

(vii) Detailed financial estimates should be provided. The estimated cost should be included in the body of the Decision, not just in the recitals.

If other member states wish to proceed to a Decision, we should be prepared to agree to a package of 100-150 mecu based on the components of the original Article 128 Decision, with a text

based on later Presidency versions, subject to points (iv)-(vii) above.

If the Presidency or the Commission wish to add new elements to the programme, such as support for student exchanges through integrated study programmes in sub-degree vocational education, which has been mentioned informally as a possible way forward, we should be prepared to consider their inclusion on a pilot or experiemental basis, but with some reduction in other actions covered by the Article 128 Decision and at most a modest increase - say to 175 mecu - in the total programme.

If the Commission decide to withdraw their proposal so that no decision can be taken we shall obviously be unpopular, given the support that has been expressed for the LINGUA programme. That is a price we must be prepared to pay to prevent creeping growth in Community competence and I hope that some member states at least will understand our position.

I should be glad to know that you and other colleagues agree to my proposals for handling the discussion of LINGUA. I am copying this letter to the Prime Minister, the other members of OD(E), the Secretaries of State for Wales, Northern Ireland and Scotland, the Chief Secretary and Sir Robin Butler.

JD3AEF

PRIME MINISTER

TEACHER TRAINING

Following your talk with Kenneth Baker yesterday, he will be sending you a note fleshing out his proposals about future arrangements for teachers' pay.

But we also need to consider how to carry forward his proposals on teacher training. You were able to have a quick look before the meeting at Mr. Baker's minute of 24 April (Flag A), and you indicated during the meeting your general welcome for his ideas. But I told Mr. Baker immediately after the meeting that you might want to have a fuller look at his paper and let him have any considered reactions.

Brian Griffiths has now looked at this material, and his comments are at Flag B. Brian feels the proposals are a step in the right direction, but alerts you to a number of dangers. He recommends:

- that you ask Mr. Baker to put forward detailed proposals on alternative entry into teaching to E(EP). (That was in fact the procedure you asked him to follow when you sent him a personal minute on the subject last Autumn.)

- that you express concern at the new local committees for CATE.

Content for me to minute in the terms Brian recommends?

PLCG.

PG

Yes

26 April, 1989.

PRIME MINISTER 26 April 1989

TEACHER TRAINING

Kenneth Baker has minuted you on four aspects of teaching training:

(a) the criteria the DES should issue for the approval of initial teacher training courses;

(b) the future of the Council for the Accreditation of Teacher Education (CATE);

(c) new proposals for alternative entry into the teaching profession - licensed teachers and articled teachers including monitoring and evaluation of the arrangements;

(d) allocation of target numbers to teacher training courses.

Detailed proposals are available only for the first item.

The proposals on new routes for teacher training are a major step in the right direction. But until we see the fine print it is necessary to reserve judgement. We know these proposals have met outright hostility from teacher unions and teacher training institutions. What one most fears is that the new proposals will involve so many detailed qualifications, that they prove too high a hurdle for most potential teachers. The result then will be that although we have new routes to teacher training, the vast majority of potential teachers will still take the traditional ones.

In addition, while the monitoring and evaluation of the new arrangements are vital, if this is to be carried out by HMI, then the system could well have much less flexibility than might appear at present.

As far as CATE is concerned, it has now completed the task it was set to do by Keith Joseph. Kenneth Baker would like it to continue in a modified form, but with scrutinising of teacher training courses being delegated to local committees. It would be critically important that these local committees were not captured by local teacher training colleges, so that instead of judging them objectively, they end up representing them! The new Chairman for this council is a crucial appointment.

Recommendations

1. Invite the Secretary of State to put forward detailed proposals on alternative entry into the teaching profession to E(EP) - the objective must be to make sure that a significant proportion of potential teachers enter via these routes.

2. Express concern at the new local committees for CATE: its work could be achieved much more effectively by a slimmed down council with a firstclass chairman, able to examine any course which it suspected of having problems.

Brian Griffiths

BRIAN GRIFFITHS

NOTE FOR THE RECORD

cc Prof. Griffiths

BILATERAL WITH KENNETH BAKER: 25 APRIL

Following Mr Baker's talk with the Prime Minister today I have agred with his office follow-up action as follows:-

- Mr Baker will write round to colleagues concerning the approach to the Lingua proposals from the European Commission.

- Mr Baker will minute the Prime Minister, not copied to other colleagues at this stage, on his proposals for future negotiating machinery for teachers' pay. This might then be followed up by a further paper copied to other colleagues.

- I would put Mr Baker's minute of 24 April back to the Prime Minister, seeking her further reactions. Tom Jeffery explained to me that DES were now keen to move towards consultation so that various of the proposals could be implemented from September; they did not propose to circulate the proposals any more widely than Messrs. Walker and King.

Could CF please BF the teacher training papers attached on Wednesday afternoon, by which time Brian Griffiths has promised to let me have a further note on this subject.

PRG.

Paul Gray

25 April 1989

MJ2DMT

PRIME MINISTER

BILATERAL WITH KENNETH BAKER: 25 APRIL

You saw over the weekend my note of 21 April (immediately below) and the papers in folders 1-4 covering the first four items on the agenda.

As promised, Mr. Baker has now sent in a paper on teacher training, in response to the personal minute you sent him last November. The papers are in Folder 5. Brian Griffiths has not yet had a chance to comment on Mr. Baker's minute. My immediate thoughts on it are:

- it reports useful, if modest, initiatives;

- circulation of his minute is curious; it has just been copied to Peter Walker and Tom King. The omission of Malcolm Rifkind is particularly odd, but there are also other departments with an interest;

- rather than having a detailed discussion with Mr. Baker tomorrow, or endorsing his proposals, you might want to invite him to circulate his minute to E(EP) - as envisaged in your original personal minute - leaving open the possibility of ~~the~~ E(EP) discussion if other colleagues have substantial comments.

PLC.

PAUL GRAY

24 April 1989
SL3BJC

cc PM
BLP

PRIME MINISTER

TEACHER TRAINING

at Qual Pt 20.

1. I minuted you on 12 December 1988, following your personal minute M9/88 of 28 November, about a number of issues on teacher training and I undertook to put further ideas to you before opening them to the wider consideration of colleagues. I now want to tell you about progress on two major aspects:

(1) the review of the system for the approval of courses of initial teacher training

(2) new initiatives to make teacher training more flexible, more responsive to the needs of teachers and schools and more directed to the problems of teacher shortage.

APPROVAL OF COURSES OF INITIAL TEACHER TRAINING

2. I have reviewed the operation of the Council for the Accreditation of Teacher Education (CATE), which Keith Joseph set up in 1984. Much has been achieved but more remains to be done. I wish to introduce tougher criteria for the approval of courses of initial teacher training (ITT) and to improve the machinery for applying them. I am issuing a consultation document which will include the new criteria. These criteria incorporate where possible statements as to the competences to be expected of a student teacher who has successfully completed a course. I attach a copy of the proposed new criteria.

3. I am proposing that much of the detailed work of the Council in scrutinising courses should be delegated to local committees. The committees will have clear terms of reference and will report to the Council. The Council will, as now, be responsible for offering me advice on course approval. I want the new Council to advise me regularly not only on courses but on how we can progressively tighten up the criteria. They are minimum thresholds and by raising them we can lever up quality.

4. I plan to implement these changes when the term of office of the present members of CATE expires at the end of this year.

TEACHER TRAINING INITIATIVES

5. I have in preparation a number of initiatives to improve teacher recruitment and to reinforce the quality of their training. I want to make teacher training more attractive to people with the right qualities and aptitudes for whom present methods of entry are, for one reason or another, unsatisfactory; and I shall take care to ensure that the training given to all beginning teachers, whatever their route of entry into the profession, is directed towards their acquiring a common series of competences which are based on the requirments of good performance in schools.

(a) Licensed teachers

6. The target here is to make it possible for mature people who already have some higher education, but who may well have family commitments, to train on the job. Unlike conventional PGCE students they will receive a salary, and their training will be the responsibility of the LEA rather than an ITT institution. There will be a lower age limit of 26. The LEA will apply to the Department for the grant of a licence, and will be expected, in cooperation with the school concerned, to arrange a training programme enabling the licenced teacher, by the end of the 2 year period of the licence, to acquire all the competences towards which all

forms of teacher education will be directed. In providing the training tailored to the circumstances of each entrant - some may have useful teaching experience but not a degree level subject qualification, while others have the degree but no experience in schools - LEAs will be expected to draw appropriately on the resources of ITT institutions. I intend to publish the necessary draft regulations next month, so as to permit recruitment of the first licenced teachers in September this year.

(b) Articled teachers

7. My target here is recent graduates who want to move directly into schools rather than spend another year mainly in an HE institution doing a conventional PGCE. I envisage that these articled teachers would do 2 years school-based training, possibly on some kind of salary, but would at the same time have close links with an ITT institution which would award them a PGCE when they had successfully completed that training. The arrangements for articled teachers will need to be agreed by LEAs, schools and ITT institutions, so that the new teachers can gain the proper balance of practical experience and instruction in teaching method in a supportive environment. There has already been an encouraging response from LEAs and ITT institutions to these ideas, which I first floated in a preliminary way in January, and I shall shortly be inviting bids for pilot schemes - which will be supported by some LEA Training Grants Scheme finance - beginning in September 1990.

(c) Other Initiatives from Institutions

8. Further evidence of this flexibility of approach comes for example from:

- Cambridge University who have proposed a 4 term undergraduate course designed for students who have completed Part I of the Natural Science Tripos and wish to train as teachers;

Newham LEA, who have introduced a scheme for further school based training of immigrants living in the borough who have trained as primary teachers in India, Pakistan or Bangladesh;

Portsmouth Polytechnic who are collaborating with the Ministry of Defence on forms of conversion training for ex-servicemen who have worked as instructors; and

York University, who are exploring forms of training for French and German nationals who wish to teach their mother tongue or other subjects in English schools.

(d) Consistency of Quality

9. I shall provide clear statements of the competences expected from trainees who emerge from these alternative training routes into teaching. The competences will be aligned with those in the main criteria for course approval to ensure consistency of quality. The new more flexible routes into teaching will need to be closely monitored and evaluated: we must satisfy ourselves both on the quality of the training provided and on the quality of the recruits in each case. By meeting the demands of particular students and employers more accurately and by recognising the importance of a flexible and practical approach to training, the new routes into teaching will over time improve the overal quality of the profession.

(e) Allocation of target numbers to courses

10. Improving the main course approval system secures a minimum acceptable standard. Opening up new routes tackles quality and quantity more directly. But these are not the only instruments for this purpose: I shall also, in collaboration with the Funding Councils, adjust the numbers of trainees on particular courses in the light of an assessment of their quality, taking into account our needs to

recruit into shortage subjects. This may well mean the abolition of some existing courses. I shall continue to offer bursaries in the shortage subjects to help ensure the places are taken up.

IN-SERVICE TRAINING (INSET)

11. Initial training, even if it is directed more selectively at the specific needs of the individual, can only carry the teacher so far. The revised criteria for ITT courses will emphasise the importance of instilling a readiness to undertake continuing in-service training throughout one's teaching career. The LEA Training Grants Schemes enables me to ensure that an adequate minimum of resources is directed by LEAs towards INSET, and to direct much of the training effort towards national priorities laid down by my Department. Accordingly much of the effort is and will continue to be directed towards the implementation of the Education Reform Act: the progressive introduction of the National Curriculum and the successful achievement of local management of schools. The scheme also serves as a mechanism for me to monitor the extent to which in-service training is being managed and evaluated systematically. My officials and HMI have used the grant as a means of exerting leverage on LEAs to ensure that training programmes are based on a considered analysis by schools of the training needs of their teachers in the context of their policies and development plans and are followed up afterwards. HMI have evidence that this is succeeding in squeezing out poor quality training and training which cannot be justified against needs.

POLICY EVALUATION

12. We shall of course need to continue to evaluate the impact of these policies. One obvious measure is success in recruitment against target into initial teacher training in total and in the shortage subjects in particular. A further

measure is recruitment and retention of teachers in schools. These measures are not entirely straightforward to interpret and in seeking to meet our targets we must not sacrifice quality to quantity. Nonetheless we shall have to pay close attention to them, not least because there will be much interest in them from the wider public.

13. On the in-service training side, I am proposing to evaluate the impact of our specific grant programmes, the Education Support Grants and the LEA Training Grant Scheme, in an Efficiency Review this Autumn.

14. As Peter Walker and Tom King have responsibilities which overlap with mine in the field of initial teacher training. I am copying this minute to them.

KB

24 APRIL 1989

DEPARTMENT OF EDUCATION AND SCIENCE

Education:

General Policy Pt 21

THE TIMES

Baker blocks opt-out plan

By Our Education Editor

Mr Kenneth Baker yesterday refused for the first time to allow a school to opt out of local government control.

Sir James Altham School in Watford, Hertfordshire, a mixed comprehensive with 559 pupils, is one of a number of schools he considers to be of doubtful viability. The school will be closed at the end of the summer term.

The secretary of state said yesterday: "Before approving an application for grant-maintained status, I must be satisfied that the school is likely to succeed. I am not willing to approve an application where a school is no longer viable." He said he had considered the opt-out proposal and the council's plan to close the school very carefully, taking into account the wishes of the parents, and the degree of local support.

Mr Baker may have been influenced by a low 52 per cent ballot of parents, of whom only 59 per cent voted in favour of opting out. Most approved opt-out proposals have been on large ballots with overwhelming majorities.

Mr Donald Fisher, the county education officer, said the aim of the closure proposal was to secure the best future for the children's education.

Mr Baker did give approval yesterday for the London Oratory Roman Catholic School, Fulham, west London, and Wilmington Grammar School for Girls, near Dartford, Kent to become grant-maintained schools in September.

● Penelope Leach, the child psychologist, yesterday launched a campaign to ban all physical punishment of children. The campaign, Epoch, wants the ban included in the Children's Bill, now going through Parliament.

The Guardian

Baker rejects opt-out plea

David Gow

MR KENNETH BAKER, the Education Secretary, yesterday turned down an application from a Hertfordshire comprehensive to opt out of local authority control and ordered its closure to go ahead.

The Sir James Altham School, South Oxhey, a mixed 11-18 comprehensive, has capacity for 1,070 pupils but had only 236 on its rolls and 27 teachers at the start of the year. It has lost its sixth form and will close in September.

Parents voted 104-71 to apply for grant-maintained status under the Education Reform Act, but turnout was only 52 per cent. Pupils already taking GCSE courses have the chance to transfer to a nearby school.

Mr Baker said: "Before approving an application for grant-maintained status, I must be satisifed that the school is likely to succeed. I am not willing to approve an application for grant-maintained status where a school is no longer viable."

Mr Donald Fisher, Hertfordshire's chief education officer, welcomed the decision. "We can now go forward with managing the closure of the school in a way that will secure the best future for the children's education."

Eight schools have so far been given permission to opt out.

Mr Baker yesterday gave the go-ahead for the first Roman Catholic school, the London Oratory in Fulham, to opt out after 96 per cent of parents voted for grant-maintained status in a 62 per cent poll.

Wilmington Grammar School for Girls, Kent, is to remain open as an opted-out school. Parents voted 95 per cent in favour, in an 83 per cent poll, of seeking grant-maintained status faced with the county council's decision to close it and the nearby boys' grammar and create a mixed grammar school.

Opted-out schools are funded by central government. Ballots have been held in 52 schools with 38 voting in favour to leave local authority control.

Friday, April 21, 1989

FINANCIAL TIMES

School is refused request to opt out

By David Thomas,
Education Correspondent

FOR THE first time, the Government has rejected a school's request to opt out of local authority control.

Mr Kenneth Baker, Education Secretary, announced yesterday that he would not allow the Sir James Altham School, Watford, to opt out. He approved Hertfordshire County Council's plan to close it.

Sir James Altham, a mixed comprehensive, is a small school of 236 pupils. Only 52 per cent of parents participated in a ballot on opting out, 59 per cent voting in favour.

The Education Reform Act last year gave schools the right to break links with their local authority and to assume a new status, known officially as grant-maintained, by which they are funded directly by central government.

The new rights have been criticised for inhibiting education authorities' plans to adjust capacity to demand by closures.

Sir James Altham school had a capacity for more than 1,000 pupils, over four times the number of pupils currently at the school.

However, Mr Baker, commenting on yesterday's decision, said: "I am not willing to approve an application for grant-maintained status where a school is no longer viable."

London Oratory School, Fulham, and Wilmington Grammar School for Girls, in Kent, were given approval yesterday to opt out from September, bringing the total of approvals so far to eight.

Parental ballots have been held at 52 schools, 38 of which voted to opt out. Nine proposals have been decided. Mr Baker is considering 19 schools' requests to opt out.

Several forthcoming decisions are about schools that may be considered too small to be viable.

Mr Baker said he considered each application on its merits, "taking account of the details of the proposals, the wishes of the parents, the degree of local support and any objections received."

Friday, April 21, 1989

THE INDEPENDENT

Baker rejects school's application to opt out

By Peter Wilby
Education Editor

KENNETH BAKER, Secretary of State for Education, turned down a school's application to opt out of local authority control for the first time yesterday. But the school's chairman of governors said that he was right to do so.

Mr Baker turned down an application for grant-maintained status from Sir James Altham comprehensive in South Oxhey, Hertfordshire.

The school has 234 pupils, well below the level which Her Majesty's Inspectors believe is needed to mount a full curriculum at economic cost. It has space for 1,000 pupils and the Government wants under-used schools to close.

Mr Baker said: "Before approving an application for grant-maintained status, I must be satisfied that the school is likely to succeed. I am not willing to approve an application where a school is no longer viable." He agreed that the school should close, as Hertfordshire education authority had proposed.

Parents' views influenced the decision. Only 51 per cent voted in the ballot on opting out and the majority in favour was only 59 per cent. The governors were split on whether they should hold a ballot.

Charles Grindell, chairman of the governors, said yesterday: "The decision is regrettable but, I think, correct. Pupil rolls have fallen considerably over the past three years."

Andrew Turner, director of the Grant-Maintained Schools Trust, said: "I'm not surprised that some school, some time would be turned down. I think it was a very difficult decision for Mr Baker."

The fate of Sir James Altham will increase speculation about how Mr Baker will handle applications for opting out from two other schools of comparable size, in Lincolnshire and Kent. In these cases, his decision will be more difficult because ballots produced high turnouts and majorities of 100 per cent and 97 per cent respectively in favour of opting out.

Mr Baker also announced that he had approved opting-out applications from the London Oratory, a voluntary-aided Roman Catholic school in Fulham, south-west London, and from Wilmington Grammar School for Girls in Kent, bringing the total approved to eight.

Another school has voted in favour of opting out. Bishopshalt comprehensive, Hillingdon, west London, became the 39th school to vote for grant-maintained status; 14 have voted against.

■ Parents should sign a partnership agreement with schools, to make them more involved in their childrens' education and to challenge schools to raise standards, the Labour Party said yesterday, **Ngaio Crequer writes.**

The agreement would secure a parental commitment to set aside time daily to talk to their children; attend parents' evenings; ensure children have required equipment; check that school uniform is worn; encourage reading by joining a library; ensure a good night's sleep; and encourage selective television watching.

Jack Straw, Labour's education spokesman, said: "Research shows that children learn best if their parents are involved in their schooling. This means much more than the involvement of parents in governors' meetings, the occasional visit to an open evening, or a once in a lifetime ballot for opt-out schools."

cc Byde-4

CONFIDENTIAL

PRIME MINISTER

BILATERAL WITH KENNETH BAKER: 25 APRIL

Following a bilateral you had with Brian Griffiths a couple of weeks ago, you asked me to arrange a talk with Kenneth Baker. That has now been arranged for next week.

You wanted to raise your concerns with him about:

(i) the progress of the Grant Maintained Schools Trust. Brian's earlier note about this is in folder I. I have also included in that folder some press cuttings about Kenneth Baker's latest decisions on opting out proposals, which you may like to see;

(ii) the bias in Government research funding. Brian's earlier note on this issue is in folder II.

I have alerted Mr. Baker's office in general terms to your concerns on these issues, and I hope he will come prepared to discuss them. Nothing has been committed to paper.

There are also three other possible items for the agenda:

(iii) European Commission ambitions in the area of Government policy. You discussed with Brian last week your general worries about Commission expansionism. Brian's further note in folder III alerts you to worries on the education front. You may want to raise this point with Mr. Baker; I warned his office that you might do so;

(iv) Mr. Baker may want to raise with you the position on future organisation of teachers' pay arrangements. For this purpose you may like to read through the note Richard Wilson has prepared,

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in folder IV. But I should be grateful if you did not reveal to Mr. Baker that you have been briefed on this subject;

(v) Mr. Baker also wants to raise with you the position on teacher training. You will recall that you sent him a personal minute about this some months ago, asking him to bring forward proposals. He will be sending in a note about this after the weekend, which I will put into the Box on Monday evening.

PAUL GRAY

21 April 1989

SL3BIY

cc Pg
cc Back-up

Version of 20.4.89

CRITERIA FOR THE APPROVAL OF INITIAL TEACHER TRAINING COURSES

Introduction

i. The criteria set out in this document apply to all courses leading to the award of Qualified Teacher Status in England and Wales or Northern Ireland and replace those set out in DES Circular 3/84 and Welsh Office Circular 21/84 and DES Teacher Training Circular letter 7/84. Compliance with the criteria is necessary for courses to be approved as courses leading to Qualified Teacher Status.

Commentary

ii. The criteria are accompanied by a commentary. The commentary is not part of the criteria but institutions are asked to have regard to it when planning and running courses.

Contents

iii. The criteria and the commentary are set out in sections as follows:

1. Co-operation Between Institutions, Local Authorities and Schools
2. Students' School Experience and Teaching Practice
3. Phase and Age Range
4. Subject Studies and Subject Application to Pupils' Learning
5. Curriculum Studies in Primary Courses
6. Educational and Professional Studies
7. Selection and Admission to Initial Teacher Training

Courses can only be assessed against the criteria insofar as the aspects to which they relate are identifiable. The criteria in Sections 2, 4, 5 and 6 are set out, for convenience, under the traditional main components of courses but in coherently planned courses various elements might often be integrated, or distributed over the duration of the course.

Definitions

iv. In this document:

- "course" means a course leading to a degree or other qualification, the award of which entitles a student to the conferment of Qualified Teacher Status;

- "institutions" means colleges, polytechnics and universities which provide courses leading to an award which entitles a student to the conferment of Qualified Teacher Status;

- "year" means an academic teaching year; in the case of one-year postgraduate courses, the year is a minimum of 36 weeks;

- "subject studies" means academic subjects studied at a level and depth appropriate to higher education; these are the subjects in which student teachers specialise during their courses;

- "curriculum studies" means the component in a primary phase course comprising the study of how to teach subjects of the basic curriculum other than students' subject specialisms;

- " subject application" means the study of the application of subject specialisms to teaching and learning in schools.

SECTION 1: COOPERATION BETWEEN INSTITUTIONS, LOCAL AUTHORITIES AND SCHOOLS

1.1 Institutions should establish links with local authorities and a number and variety of schools, and should develop and run the professional and educational aspects of courses of initial teacher training in close working partnership with those schools.

1.2 Institutions should ensure that experienced teachers from schools are involved in:

i. the planning of initial teacher training courses and in their evaluation;

ii. the selection of students; and

iii. the supervision and assessment of students' practical work (see criterion 2.5);

and that they are:

iv. invited to make contributions as appropriate to lectures, seminars or other activities in the institutions' courses.

1.3 Institutions should satisfy themselves that teachers are appropriately prepared before they undertake such activities.

1.4 Institutions should ensure that newly appointed staff concerned with subject application and educational and professional studies have recent experience of teaching in schools, and maintain and develop that experience thereafter.

1.5 School teaching experience which such staff undertake should be relevant to their particular phase, subject or other specialisms. By the beginning of academic year 1992-93 institutions should ensure that this experience is the equivalent of not less than one term in every five years. In the meantime it should at the minimum amount to the equivalent of not less than 35 days in every five years.

SECTION 2: STUDENTS' SCHOOL EXPERIENCE AND TEACHING PRACTICE

2.1 Courses should include a substantial element of teaching practice and other school experience. In total, this should be at least:

- in courses lasting three years or less; and

- in four-year concurrent undergraduate courses (ie where the teacher training element accounts for the equivalent of about one year and leads to the award of a separate Certificate of Education) .... 75 days

- in all other four year courses .... 100 days

2.2 There should be practical classroom work during the first term of a course so that, if any student is not suited to teaching, this can be recognised by the institution and the student as soon as possible.

2.3 All courses should include a sustained period of teaching practice. In the case of courses lasting two years or more there should be such a period in the final year.

2.4 Those parts of courses which take place in institutions should be closely linked to students' practical experience in schools.

2.5 Institutions should have a written policy statement which sets out the roles of tutors, heads, teachers, employers, and students in relation to students' school experience (see criterion 1.2 iii.).

2.6 No degree or other qualification attracting QTS should be awarded unless the student has demonstrated a satisfactory standard of practical classroom work, including the ability to secure that effective teaching and learning can take place and to manage pupil behaviour (see criterion 6.5).

SECTION 3: PHASE AND AGE RANGE

3.1 Courses should prepare students to teach either in primary schools or in secondary schools.

3.2 Secondary courses should normally cover the age ranges 11-16 or 11-18.

3.3 Primary courses should normally cover the age ranges 3 or 5-12 and within such courses there should be an emphasis either on the age range 3 or 5-8 or 7-11 or 12.

SECTION 4: SUBJECT STUDIES AND SUBJECT APPLICATION TO PUPILS' LEARNING

4.1 All students following undergraduate courses should take subject studies at a level appropriate to higher education. The content of subject studies should provide students with teaching strengths appropriate to the primary or secondary school curriculum and the age range for which they are being trained.

4.2 Students training to be secondary school teachers should have completed by the end of their initial teacher training course at least the equivalent of a two-year full-time course of subject studies. For students on secondary phase undergraduate courses, these studies should be in not more than two subjects and the time devoted to a second subject should not be less than one-quarter of the total time spent on subject studies.

4.3 For students training to be primary teachers the corresponding minimum period for subject studies in undergraduate courses is one and a half years.

4.4 All courses should include training in the application of students' subject specialisms to the teaching and assessment of pupils. This training should be additional to the time spent on subject studies and should include some structured school experience. In undergraduate courses for intending primary teachers, the length of this training should not be less than half a year full-time or its equivalent. In both undergraduate and postgraduate courses for intending secondary teachers the corresponding time should be not less than one-third of a year full time or its equivalent.

4.5 On completion of their course students should be able to:-

i. plan schemes of work in the subject or subjects covered by their "subject application" work, throughout the age range for which they have been trained;

ii. teach and assess these subjects to the level appropriate to the top of that age range; and

iii. be able to provide advice on subject content and teaching method in their subject to colleagues who have specialised in other subjects.

SECTION 5: CURRICULUM STUDIES IN PRIMARY COURSES

5.1 The criteria in this section apply except to the extent that a student's "subject application" work as specified in criterion 4.4 already covers one or more of the subjects concerned.

5.2 Courses for primary phase students should prepare students so that they can to teach and assess the core subjects of the National Curriculum and design and technology to the attainment targets set for the age range for which they are being trained. In every primary course at least 100 hours should be devoted to the teaching of mathematics, 100 hours to English and 100 hours to science and design and technology taken together. Work in each of these three subject areas should include a minimum of 60 hours contact time, supplemented by work in school and directed private study.

5.3 Primary courses should also prepare students so that, with suitable support and guidance from more experienced colleagues, they can plan individual lessons within given schemes of work, teach to the level required by the national curriculum, and assess the achievement of pupils in history, geography, art, music and physical education and should offer students training in religious education which will prepare students to the same level.

NOTES

1. In Wales students should have the opportunity of pursuing courses in Welsh as a first or second language.

2. In Northern Ireland training should prepare students to teach the "Areas of Study" specified - English, mathematics, science and technology, the environment and society, creative and expressive studies - and also the "Cross-curricular Themes". Training should take account of attainment targets contributing to the Areas of Study.

SECTION 6: EDUCATIONAL AND PROFESSIONAL STUDIES

6.1 This element in courses should develop in students competence in key professional skills. It should also enable students to appreciate their task as teachers within the broad framework of the purposes of education, the development and structure of the education service, the values and the economic and other foundations of the free and civilised society in which their pupils are growing up, and the need to prepare pupils for adulthood, citizenship and the world of work.

6.2 On completion of their course, students should be aware of the links and common ground between subjects and be able to incorporate in their teaching cross-curricular subjects, themes and skills.

6.3 Courses should prepare students for teaching the full range of pupils and for the diversity of ability, behaviour, social background and ethnic and cultural origin they are likely to encounter among pupils in ordinary schools. On completion of their course students should have developed:

i. an understanding of the different ways in which pupils develop and learn and the ways in which pupils' work can be planned to secure clear progression;

ii. the capacity to use a range of teaching methods appropriate to the different abilities and other needs of pupils and organise their work accordingly.

iii. the capacity to identify gifted pupils and pupils with special educational needs or with learning difficulties; and to understand the ways in which the potential of such pupils can be developed;

iv. skills in the evaluation and recording of pupil performance, including in particular the testing and assessment requirements related to the National Curriculum and, where relevant, the preparation of pupils for public examinations.

Students should learn to guard against preconceptions based on the race, gender or other attributes of pupils.

6.4 On completion of their course, students should be able to teach controversial subjects in a balanced way.

6.5 All courses should contain compulsory and clearly identifiable elements of practical training which will develop in students' skills in the effective management of pupil behaviour. Such training should include specific, institution-based elements on the acquisition of group management techniques.

6.6 All courses should contain compulsory and clearly identifiable elements which enable students to make effective use of information technology (IT) in the classroom and provide a sound basis for their subsequent development in this field. They should be trained to be able to

(a) make confident personal use of a range of software packages and IT devices appropriate to their subject specialism and age range

(b) review critically the relevance of software packages and IT devices to their subject specialism and age range and judge the potential value of these in classroom use

(c) make constructive use of IT in their teaching and in particular to prepare and put into effect schemes of work incorporating appropriate uses of IT; and

(d) evaluate the ways in which the use of IT changes the nature of teaching and learning.

6.7 Courses should also cover other aspects of the teacher's work, including:

i. the pastoral, contractual and administrative responsibilities of teachers, including the preparation of teachers to detect the maltreatment of children;

ii. means of developing and sustaining links with parents;

iii. the school in its wider social context, including issues of culture, gender and race;

iv. the significance of links between schools and the wider community; including those between schools, local businesses and the world of work.

v. the structure and legal framework of the education service.

6.8 All courses should have as explicit objectives to secure that students recognise

(i) the need to maintain their professional competence through regular updating and in-service training during their teaching careers and

(ii) that as members of the staff of the schools in which they will serve they should expect both to help and to draw on the support of their colleagues eg in matters of discipline and curriculum development.

NOTE

In Northern Ireland this element in courses should cover "Education for Mutual Understanding".

SECTION 7: SELECTION AND ADMISSION TO INITIAL TEACHER TRAINING COURSES

Selection Procedures

7.1 Institutions should have adequate procedures to ensure that candidates possess the personal and intellectual qualities suitable for teaching, and the physical and mental fitness to teach.

7.2 In all stages of selection, institutions should ensure that equal opportunities are given to every candidate, irrespective of race or gender.

7.3 No candidate should be admitted for a course without a personal or group interview.

Entry Requirements

7.4 Institutions should satisfy themselves that all entrants:

i. are able to communicate effectively in spoken and written English and where appropriate Welsh; and

ii. have attained in mathematics and in English language the standard required to achieve a grade C in the GCSE examination.

7.5 In the case of postgraduate courses, institutions should satisfy themselves that:

i. entrants hold a degree of a United Kingdom university or the CNAA or a recognised equivalent qualification; and

ii. the content of entrants' initial degrees is appropriate to the primary or secondary school curriculum and to the age range for which they will be trained.

7.6 In the case of extended postgraduate courses designed to equip students with a specialism in a "shortage subject" by an extension of the "subject study" in their initial degree, institutions should ensure that the content of candidates' initial degrees includes at least one year of full-time higher education study in the field of the appropriate subject specialism.

7.7 In the case of undergraduate courses, institutions should satisfy themselves that, subject to criteria 7.8 to 7.10:

i. entrants fulfil the normal academic requirements for admission to first degree studies; and

ii. entrants intending to teach secondary pupils hold an A level pass, or equivalent, appropriate to their intended main subject specialism or specialisms.

7.8 In the case of shortened BEd courses designed for students with some experience of higher education short of the standard of a recognised degree, institutions should satisfy themselves that entrants have satisfactorily completed at least one year of post-A level study in the appropriate subject or subjects.

Non-standard Entry

7.9 Institutions may admit to undergraduate courses mature students who lack the conventional entry qualifications for first degree studies where they are satisfied as to the intellectual capacity of the student to complete a degree course successfully.

7.10 Where institutions admit students without conventional entry qualifications, they should be able to demonstrate that they have carefully considered the basis on which such entrants are admitted, and that the academic and professional standards of courses will not be compromised in order to accommodate such students.

COMMENTARY

SECTION 1: COOPERATION BETWEEN INSTITUTIONS, LOCAL AUTHORITIES AND SCHOOLS

1. Close cooperation between schools, local education authorities and initial teacher training institutions leads to better training of student teachers for their future careers and provides valuable staff development for institutions and schools. Where possible, institutions should build long-term partnerships with individual schools which will foster collaboration and training opportunities. Arrangements should be reviewed regularly to ensure that the benefits to institutions and schools are maintained.

Involvement of Teachers in ITT Courses

2. The involvement of experienced serving teachers in the initial training of teachers provides student teachers with a chance to meet and work with a range of practitioners who can provide different examples of teaching methods and styles. Serving teachers stand to gain through contact with developments in curriculum thinking and from the fresh insights of the students and teacher trainers with whom they work. The activities related to initial teacher training in which serving teachers participate are a valuable form of staff development.

3. Institutions should ensure that the role of serving teachers in guiding students during their periods of school experience, and particularly in the supervision and assessment of students' practical work, is understood by all those involved. Such teachers should see a large part of the work of students on teaching practice and other school experience. The assessment of students should be a shared judgment, in which the views of both serving teachers and teacher trainers are given full weight.

4. The involvement of serving teachers in selection should not be confined to assisting institutions in drawing up or revising their selection procedures and guidelines. Teachers should, when possible, be directly involved in interviewing candidates for initial teacher training. They can make a valuable contribution to the assessment of candidates' potential in relation to the current

and changing needs of schools. If students are given the opportunity as part of the selection process to visit schools, teachers can be involved in assessing students' reactions to this experience. "Serving teachers" would include not only classroom teachers but also heads and deputy heads and also teachers on secondment to study for higher degrees at the institution.

5. There are skills specific to the teaching of young and mature adults at the level of higher education. Serving teachers and newly appointed tutors may need help in acquiring these skills.

6. The preparation of serving teachers for their involvement in teacher training should be the joint responsibility of the institution, the senior staff of the school and employers. In some of the most effective examples of partnership between schools and institutions, the institution, in collaboration with all the relevant staff in the schools, has produced a written statement or a handbook on the role of teachers in the course, particularly in the supervision and assessment of students, which has also been available to students. There is evidence that the absence of such a document can lead to less effective supervision and assessment of students' teaching practice.

School Experience for ITT Tutors

7. Long absence from teaching in school creates the risk that tutors will lose confidence in their own classroom skills and that their tutorial work will become detached from the professional needs of students. If tutors maintain and develop their teaching experience they will ensure that the training which they provide for students reflects the changing curricula and needs of schools.

8. Institutions should have staff development programmes which offer tutors appropriate teaching and other school experience. This might take the form of block or serial experience but preferably both. Although not all school experience needs in strictness to be in classroom teaching, this should form the major element in each tutor's development programme and such work should be closely related to tutors' normal work with student teachers. Institutions should take account of tutors' own wishes in

undertaking school experience. They should also ensure that it is systematically evaluated in terms of the benefits to schools and pupils as well as to tutors' work in the training of students.

9. The report of the Elton Committee recommended that tutors' school experience should be the equivalent of one term in five years. In response the Secretary of State announced that he intends to set a clear national standard. The criteria embody the Elton Committee recommendation but propose that where they do not already achieve it institutions should move towards it over the period up to the beginning of academic year 1992. Institutions should devise programmes for achieving this objective.

SECTION 2: STUDENTS' SCHOOL EXPERIENCE AND TEACHING PRACTICE

1. The figures for the amount of school experience in criterion 2.1 are minimum figures and institutions should seek to provide much more than these minima wherever possible.

2. Students should be encouraged to gain some school experience before their course begins. This could involve visits to meet serving teachers and to observe good practice and might include experience of both primary and secondary schools. This can help students to decide whether they have teaching potential and whether they have chosen the right subject specialisms and age range.

3. School experience during the course should relate to the full age range for which students are being trained and to the subjects which they are being trained to teach. Other age ranges may be included where appropriate to extend their awareness of the work of teachers. Students should work with pupils with a wide range of abilities in a variety of schools and should have the opportunity to become fully involved in schools' daily routines.

4. Institutions should ensure that school experience is used as far as possible to illuminate students' educational, professional and curriculum studies and their applications work. All school experience should be carefully structured and prepared in advance and arrangements should be made for the evaluation and assessment of all practical work.

5. Care should be taken to ensure that student teachers are not handicapped by being placed in schools which are unable to provide appropriate experience.

6. School experience should include a substantial amount of class teaching which should include opportunities for whole class teaching early in the course. There should be a period of sustained teaching practice of not less than 20 days towards the end of the course, in which the student should be given the opportunity to teach a whole class unsupervised. Possible patterns for this sustained teaching practice include full-time blocks or a specified number of days each week. If a part-time pattern is chosen, the

time spent should be a minimum of two days a week but preferably more. Students should have the opportunity to build up a relationship with classes over time in the same way as serving teachers.

7. Institutions should satisfy themselves that students' practical work in schools, particularly during final teaching practice, demonstrates a level of competence appropriate to a newly-qualified teacher entering the period of induction.

8. Institutions should ensure that they have appropriate arrangements for counselling students who meet difficulties in their teaching. Where appropriate students should have the opportunity to repeat early teaching practice. If it is concluded that a student is not suited to teaching, arrangements should be made for the student to withdraw from the course as soon as possible. Institutions should, in the case of undergraduate students, seek to provide places on alternative courses of higher education.

9. Institutions' policy statements required by criterion 2.5 should cover arrangements for planning, preparation, supervision and assessment of school experience and procedures for its evaluation and review.

SECTION 3: AGE RANGE

1. It is generally recognised that courses which aim to cover the whole primary age range of 3-11 or 3-12 often do not cover adequately all of its sub-phases. The criteria are not, however, intended to tie the division of the primary age range to Key Stages 1 and 2 of the National Curriculum, since continuity between phases is important. Some courses have also been designed in collaboration with LEAs which use a particular form of school organisation, eg middle schools, where the age of transfer does not match the Key Stages.

2. Some secondary courses or subject specialisms are designed to cover only the age range 11-16, since in the LEAs where it is practicable to provide school experience the predominant form of school organisation for the 16-19 age range is tertiary. It may also be the case, where students take two subject specialisms, that the content of one of the subjects does not prepare the students for sixth form teaching.

SECTION 4: SUBJECT STUDIES AND SUBJECT APPLICATION TO PUPILS' LEARNING

1. The "subject studies" in the BEd degree, in the original degrees held by PGCE students and in the post 'A' level study of entrants to shortened undergraduate courses are essential elements in both the professional training and the personal education of teachers. Mastering a subject, or an area of learning, provides students with confidence in their own ability, and facilitates to more effective teaching, better learning experiences for pupils and better planning and organisation of the subjects within the school curriculum.

Content of subject studies

2. The title and the content and ambit of the subject studies in a student's degree will not always match closely those of the subjects in the National Curriculum. However the content of their subject studies provides the basis for their work throughout their future teaching careers. It is therefore essential that subject studies include significant elements clearly related to the curriculum of the age range for which students are being trained. It is also important that the subject studies element of a course related to lower age ranges should not be constituted from subjects which would not be found in the school curriculum for those years.

3. Courses for students intending to specialise in "early years" cater for the needs of the age range 3-8 years, and thus include pupils to whom the requirements of the National Curriculum apply. Although the curriculum for under fives is not usually defined in subject terms it is still necessary for the teacher to be able to teach number and language work, and aspects of science, design and technology, history, geography, art, music, and physical education. In courses for intending early years teachers as in other courses these subjects should be treated, as appropriate, as subject studies or curriculum studies. "Child development" however should be treated as an aspect of educational and professional studies.

Undergraduate secondary phase courses

4. For intending secondary teachers on undergraduate courses, the criteria provide that the time to be spent on subject studies should be the equivalent of at least two years full-time and the number of specialisms which may be studied is limited to two. This reflects the knowledge and understanding which students will require in order to be able to teach in schools. There are areas of academic study which, while proper to higher education, are remote from or represent only a very small part of the school curriculum. Where these are offered as subsidiary subject studies, they should be available only to students taking a main subject to which they are related in the basic curriculum.

Undergraduate primary phase courses

5. For intending primary teachers on an undergraduate course, the criteria provide that the amount of time to be spent on subject studies should be at least one and half years. This reflects not only the extent of the knowledge and understanding which primary teachers will need in order to teach their specialist subject or subjects, but also the fact that most primary teachers, except for some teachers in the upper years of some primary schools, will be required to teach the whole or most of the curriculum rather than just their specialist subject area and that time must also be allowed within the course for curriculum studies (see section 5 below).

Breadth of curriculum to be covered in subject studies on primary courses

6. The criteria do not specify the number of subject specialisms which primary teachers may take. One of the needs of schools, particularly in response to the National Curriculum, will be for teachers who are able to take the role of "curriculum leaders". Such teachers will advise their colleagues and co-ordinate the work of the school in particular areas of the curriculum. In smaller

schools, teachers may need to take the lead in several subjects. It is therefore likely that the training which will prove most useful to intending primary teachers will enable them to specialise in more than one subject. It is important, however, that the primary phase student should not attempt a subject study programme which is too broad: normally it should not comprise more than two subjects in the National Curriculum. Where, exceptionally, three subjects are studied, institutions should ensure that they are related. Where more than one subject is included in a student's subject study programme, and the subjects are not studied to the same depth, the minimum time for any one subject should be the equivalent of half a year.

Deferment of selection of subject studies on primary undergraduate courses

7. In some institutions it is possible for students on primary courses to delay the selection of their subject studies until the second year. This arrangement enables students to demonstrate, through work on curriculum studies, whether they have sufficient interest and ability to pursue subjects other than those in which they have the highest entry qualifications. Such an arrangement can be particularly useful to increase the numbers of primary students who are prepared to take shortage subjects such as mathematics, science or technology as their subject studies.

Subject application

8. Both undergraduate and postgraduate courses should include training in the application of specialist subjects to the teaching and assessment of pupils. This aspect is sometimes called "subject method" in secondary training. Application work in primary courses should include the role of curriculum leader. For primary postgraduate courses, the criteria specify no minimum time for applications work in view of the other demands on the time available. It is important in all courses that the element of applications work undertaken in schools should include, in addition to teaching practice, other forms of school experience related to

the specialist subject. In primary courses, this is particularly important if the opportunity for students to teach their subject specialisms during normal teaching practice is restricted.

SECTION 5: CURRICULUM STUDIES IN PRIMARY COURSES

1. Primary teachers usually have to teach the whole of the basic curriculum - that is the foundation subjects of the National Curriculum for the primary phase and religious education, as well as those subjects which they cover, under section 4 of the criteria, in their "subject studies" and "subject application". The object of the "curriculum studies" component in primary courses is accordingly to enable the trained teacher to teach the rest of the basic curriculum.

2. The requirements of criterion 5.3 will entail careful planning if they are to be satisfied within the time available on primary phase courses. It is not envisaged that all foundation subjects can be covered to the same depth or breadth, especially in postgraduate courses. However, institutions should ensure that all students have a significant amount of directed study in each subject. Where coverage has to be limited to short introductory units, this should be offered in no more than two subjects, and institutions should ensure that the first employers of their students are fully informed of this, since in their first year of teaching students are likely to require considerable support in such subjects from experienced colleagues.

3. The subject of religious education is treated differently from other subjects in the criteria since it is open to teachers not to teach this subject on grounds of conscience. Similarly, while it is expected that students on primary courses should be trained to teach religious education, students should have the opportunity not to undertake this part of their training on grounds of conscience.

4. Criterion 5.1 recognises that primary courses should avoid duplication in the ground covered by subject studies, subject application and curriculum studies. Where "curriculum studies" and "subject application" elements are planned jointly to form a coherent course, students should be required to follow both elements. Institutions should not allow students to omit any component of their "curriculum studies" unless they are certain that no important aspects of their training are thereby missed out.

5. Primary curriculum studies should take account of the Statutory Orders in respect of all National Curriculum subjects as they are introduced and related non-statutory guidance from the Department of Education and Science and National Curriculum Council.

6. The requirement in Section 5 regarding provision to prepare students to teach or support the teaching of Welsh as a first or as a second language is in conformity with the National Curriculum in Wales, in which Welsh is a core or a foundation subject depending upon the predominant medium of instruction of the individual school. Preparation to teach Welsh as a core subject is confined at present to particular institutions and to students who are fluent in Welsh. Preparation to teach or support the teaching of Welsh as a second language (foundation subject) should be available as an additional voluntary study in all institutions in Wales offering primary training; this language element should take account of the Welsh national curriculum order and supporting non-statutory guidance. Curriculum studies in institutions in Wales should also take appropriate account of the environment and the unique cultural heritage of Wales.

SECTION 6: EDUCATIONAL AND PROFESSIONAL STUDIES

1. In designing the educational and professional studies elements of courses, institutions should ensure that they are clearly linked to students' school experience, so as to enable them to develop both a full range of competences and the ability to analyse and evaluate their own performance.

2. Students should be introduced to a variety of types of learning difficulty and ways in which they can be eased or overcome. They should be able to use appropriate teaching methods and styles in a range of situations.

3. Students should be trained to recognise outstanding ability in pupils, for example, intellectually or in the performing arts or sport, and to be aware of different ways in which such ability can be developed, both within and outside the school curriculum. They should be trained to adapt their teaching methods and styles as appropriate.

4. Students should also be made aware of the limitations which schools face in helping pupils with learning difficulties and gifted pupils. They should be able to judge when to seek assistance from colleagues and be aware of the variety of other services which might be used.

5. Students should learn the importance of classroom management and different models of classroom organisation. Students should be able on completion of the course to

- manage children individually, in groups and as a whole class so that work is carried out in a responsible and orderly manner;

- employ a range of teaching methods appropriate to a whole class, groups or individuals;

- match teaching methods to learning activity and pay due attention to pace;

- match teaching methods to learning activity and pay due attention to pace;

- establish good working relationships with classes and individual pupils;

- communicate clearly and intelligently with pupils orally and in writing; and

- evaluate the effectiveness of their teaching in the light of pupils' responses and make appropriate adjustments.

Institutions should consider the implications for courses of the report of the Elton Committee and its specific references to the study of group behaviour and the use of peer group support.

7. Monitoring and assessment of pupil performance is an important part of the responsibility of all teachers. Institutions should ensure that students are aware of the requirements of the National Curriculum and their implications for assessment at all stages. Students should also learn about the variety of assessment methods available and the different ways of recording pupils' progress, including profiling and records of achievement. Consideration of assessment should include, in secondary courses, an introduction to the principles employed and the range of methods used in public examinations, including in particular the development of some competence in the assessment of course work within the context of the examination system. On completion of the course, students should be able to undertake a reasonable range of types of assessment, determined in the light of advice from the Secondary Examinations Assessment Council, for diagnostic, formative, and summative purposes, and to record them appropriately.

8. Students should understand the nature, purpose and practice of pastoral care, be introduced to basic counselling skills, be ready to undertake the administrative and pastoral duties of a class teacher and be given the opportunity to observe experienced teachers in their contacts with parents. With respect to the maltreatment of children, institutions should consider particularly

the guidance issued in DES Circular 4/88 and in Teacher Training Circular Letter 5/88.

9. Students should be made aware of the range of agencies with which schools co-operate including social services, police, transport undertakings, health services, school meals services, school psychological services, sports facilities and museums.

10. Students' appreciation of the importance of school-industry links may be enhanced through practical experience of industry and commerce before and during their courses. Institutions should ensure that students' awareness is developed through work in school experience and educational and professional studies work as well as, where possible, in subject application work. Institutions should be aware of the materials that have been and are being produced in this area for use both in teacher training courses and in staff development for teacher trainers.

11. As regards information technology, criterion 6.6 is derived from the report of the Working Group on Information Technology in Initial Teacher Training to which institutions should refer for a fuller account of student capability and best practice.

SECTION 7: SELECTION AND ADMISSION TO INITIAL TEACHER TRAINING COURSES

1. Responsibility for assessing candidates' suitability for admission to courses lies with individual institutions. Institutions should ensure that advertising or publicity relating to courses or to the institution itself makes clear that all applicants will be treated in the same way. Further general guidance on equal opportunities in selection may be found in the Codes of Practice of the Equal Opportunities Commission and the Commission for Racial Equality.

Selection Procedures

2. An assessment of personal qualities is particularly important in selecting intending teachers since their ability to teach and to manage classes depends on the relationships they form with children and with their teacher colleagues. The personal qualities which selection procedures are designed to explore should include: a sense of responsibility; a robust but balanced outlook; the potential ability to relate well to children; sensitivity; enthusiasm and a facility for communicating. Some evidence of these qualities may be obtained from application forms, references and any other records of candidates' relevant experience. Institutions may also wish to look for other qualities in candidates.

3. Arrangements for assessing the physical and mental fitness to teach of candidates for initial teacher training are set out in DES Circular 1/88.

4. Interview panels should include specialists appropriate to the age range and subject which the candidate wishes to teach and other staff who will see a range of candidates in different specialisms and phases, with a view to securing consistent standards. Where possible, serving teachers should also be involved in the interview - see also section 1.

5. The criteria do not require that interviews should be offered to all applicants for courses: candidates may be rejected without an interview but no candidate should be accepted without an interview.

Entry Requirements

6. Institutions should be able to assess candidates' oral and written communication skills through their selection procedures.

7. The requirement under criterion 7.3ii is not that candidates have to hold an examination pass at grade C or above in the GCSE, but that they have attained the standard required. A list of examinations regarded as equivalent to GCSE grade C in English and mathematics is available from the Universities Council for the Education of Teachers. Institutions should be prepared to assist candidates who do not hold a GCSE pass at the requisite level or its equivalent but are otherwise acceptable, to attain the required standard before starting the course, and to undertake the assessment of candidates' ability themselves.

8. In selecting entrants to postgraduate courses, institutions should pay particular attention to the content and breadth of study of candidates' initial degree courses to ensure that they contain substantial elements which will enable candidates to contribute directly to the school curriculum of the age range for which they will be trained. In the case of primary courses, it is important to bear in mind that students may become curriculum leaders in their subjects for the whole school.

9. Criterion 7.5ii is not meant to imply that A levels must match precisely the subject specialisms which candidates are intending to teach. Thus 'A' levels in the physical sciences or mathematics may be appropriate for an intending teacher of technology.

Non-standard Entry

10. Students admitted other than by standard entry routes often benefit from access courses designed to prepare them for higher education and should be encouraged, where appropriate, to make use of such opportunities. Institutions should bear in mind the need for appropriate tutorial support for such students during initial teacher training.

Education & General Policy PL-21

CONFIDENTIAL

SCOTTISH OFFICE
WHITEHALL LONDON SW1A 2AT

The Rt Hon John Wakeham MP
Lord President of the Council and
Leader of the House of Commons
Privy Council Office
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18 April 1989

Dear John,

SELF-GOVERNING SCHOOLS ETC (SCOTLAND) BILL: GUILLOTINE

I am writing to ask if you would make time available on the floor of the House as soon as possible to debate a guillotine motion to restrict the time available for the Committee Stage of the Self-Government Etc (Scotland) Bill. I would hope that it might be possible to have a debate in the week beginning 24 April; but it would, at the latest, need to be during the week beginning 1 May, which is the week which immediately precedes the Scottish Conservative Party Conference.

I understand from David Maclean that by the end of next week the Committee will have spent 84½ hrs discussing the Bill. The Opposition have done their best to bog us down in discussion in Committee and in the light of some of their tactics they can quite clearly be accused of deliberate time wasting. If we allow the Bill to run its course it could drag on until at least the end of May.

I am however extremely anxious that it should be out of Committee at the latest by the end of the week following the Party Conference in Perth, ie by Thursday, 18 May. Ideally I would prefer discussion to be concluded by Tuesday, 9 May but I recognise that this may not be practicable.

There are a number of reasons for this. It is a controversial Bill which has provoked a great deal of attention and discussion, especially in the press. While ideally I would like to bring that to an end before the Party Conference, I certainly consider it necessary to conclude it well before the European elections, not least because the seats of two of our backbenchers who have a track record of criticism of the Bill are in particularly sensitive Euro seats from our point of view. I am also very anxious that we put a limit on the amount of time Michael Forsyth, I and my Ministerial colleagues have to spend in the Committee given the other extremely important issues - such as the National Health Service Review - on which we need to be concentrating in order to promote public support.

From the point of view of the Bill itself, it is important that its passage should be concluded as soon as possible so that its provisions can come into effect during the next school year. I very much hope in particular that it will be possible for House of Lords consideration to start well before the summer recess. Obviously for this purpose it is essential that we conclude Committee discussion as soon as possible.

I am copying this letter to the Prime Minister, David Waddington, John Belstead, Bertie Denham and to David Maclean.

Yours ever,

MALCOLM RIFKIND

CF to file?

SSPS/4174/811

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Dominic Morris Esq
Private Secretary
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P/A

14 APR 1989

Dear Dominic

Thank you for your letter of 10 April enclosing that of 6 April from Cyril Taylor, Chairman of the CTC Trust. The letter gives a fairly accurate picture of progress in one or two areas which have emerged on the CTC map since the CTC sponsorship dinner the Prime Minister hosted in January.

You ask specifically for advice on Mr Taylor's suggestion that Section 92 of the Education Reform Act be used to allow a school to opt out of local authority control and subsequently become a CTC. We have been investigating this possibility with our lawyers, who have also consulted Treasury Counsel. Their view is very strongly that this is not an option under existing legislation. It would involve a school seeking endorsement from parents to become grant-maintained and securing the Secretary of State's approval to the application; but shortly thereafter applying to him for permission to close and for a CTC to reopen in the premises. Legal advice is that a decision by the Secretary of State to approve a school for grant-maintained status and then subsequently approve closure in this way would almost certainly be challenged in the courts, and in the event of such a challenge would almost certainly be declared unlawful.

In the light of this advice, we are hoping that it will be possible to buy from Brent the premises of a school for which the Council is already considering closure, and to reopen this as a CTC.

It follows from this that we do not see any possibility of using the existing grant-maintained schools legislation as a route to

the formal creation of a CTC. However, my Secretary of State has been considering whether there is scope to allow a grant-maintained school which wished to do so to take on some of the characteristics of a CTC and thereby increase the beacon effect which CTCs are already demonstrating.

Yours Sincerely

P V D SWIFT
Private Secretary

CONFIDENTIAL

PRIME MINISTER 12 April 1989

EDUCATION POLICY: EUROPEAN COMMISSION AMBITIONS

One of the few major areas of policy in which the Community is not involved, at least yet, is primary and secondary education.

The Treaty is silent on education (save for vocational training) which means that any proposal from the Commission would have to be agreed unanimously. This has put brakes on the Commission: but we know it is ambitious to develop a role in the whole field of education policy. This could be extremely troublesome in the 1990s and the current position needs to be safe-guarded vigorously.

A relatively minor measure now on the table in Brussels threatens this and is clearly being promoted hard by the Commission.

It is a proposal for a Community action programme on school language training. It would make funds available to strengthen teaching of at least one additional Community language and to encourage pupil exchange visits. On the face of it these are worthy objectives. But the measure as proposed (deliberately) by the Commission would mean the Council for the first time agreeing general principles about education. This is exactly the small acorn the Commission seeks, because these principles would begin to establish internal Community rules on education and thus Community competence. The Commission has adopted this tactic in all sorts of areas and little by little, if we conceded this one, we would be faced with a full-blown proposal for a Community education policy.

But in this case I believe we need to be strong and leave the Commission and other Member States in no doubt of our resolve to block the proposal on competence grounds. This needs clearly stating at Ministerial level in order to ensure that a nugatory negotiating process is not started which could lead to misunderstanding about our ultimate intentions.

RECOMMENDATIONS

- We need to make clear our determination to block the language training measure (known as draft Decision B of the Commission's proposed "Lingua" programme) on competence grounds.

- This view can be communicated in response to Kenneth Baker's forthcoming letter, but a discussion with him in advance of that to stiffen his own resolve may be worthwhile. Perhaps it could be added to this agenda of your forthcoming meeting?

Brian Griffiths

BRIAN GRIFFITHS

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CONFIDENTIAL & PERSONAL

PRIME MINISTER 12 April 1989

GRANT-MAINTAINED SCHOOLS TRUST

I had a very disturbing meeting last week with Andrew Turner, Director of the G-M Schools Trust.

Opting Out - A Brisk Start

To start with - the good news: opting-out has got off to a brisk start.

- following the launch last summer, some 600 schools and individuals asked for further information;

- a total of 51 schools have balloted for G-M status, 38 in favour, and 13 against. Six schools have been granted G-M status and by September about 10 G-M schools should be open;

- a Daily Telegraph survey suggests that of another 143 schools known to be considering G-M status, 20-30 had already planned to hold governors' meetings.

Fears of G-M Schools

The principal fears of G-M schools are the administrative burdens they may be taking on, the difficulty of replacing some LEA services and the difficulty of dealing with the DES. Are they exchanging one LEA bureaucracy for an even worse one - the DES?

(i) Delayed Decision-Making

A substantial number of decisions regarding G-M schools remain to be taken, for example:

- How the governors of a G-M school apply for transitional grant;

- what type of statutory corporation is a G-M school (for instance partnership, company limited by guarantee...)?

- DES requirements on financial reporting by G-M schools;

- detailed TVEI arrangements;

- arrangements for insurance.

(ii) Unnecessary Bureaucracy

- it is being suggested that reporting to DES should be monthly;

- proposed restrictions on the amount of savings that may be carried over from one year to the next without DES approval to 2½% of annual maintenance grant for general purposes and 10% for repairs fund;

- the draft instrument and articles of government provide a 3-stage procedure for the exclusion of pupils, in two of which the headmaster is involved more as a prosecutor (or defendant). This puts voluntary aided school heads in a worse position than they are in at present;

- the draft articles (para 4(10) provide for a committee to make decisions on admission applications - again there is no reason why this should not be delegated to the head;

- the draft articles (para 5(4) require the governors to have regard to representations made about the school's curriculum

by anyone connected with the community served by the school - a receipe for interference by LEAs and other busybodies.

G-M Schools Trust

This turns out to be the area of greatest concern:

- the Council has not met since it was set up last July.

- I contacted two members whose names appear as trustees on an official press information sheet:

  Kent Price - who is an outstanding businessman (Chief Executive of Chloride) didn't even realise he was a Council member; he said he had been approached about being a trustee last July and had heard nothing since.

  Judith Chaplin said that she had agreed to be a trustee last July, had asked for meetings and has now said that unless there is a meeting, she will resign.

- the Trust has been largely "reactive", "responding to demand" with no clear strategy as to how to sell the concept to more schools;

- since day one, the Trust "has been fire-fighting - there is no strategic planning" according to its Director;

- there is a marked contrast in numbers between the 12 officials in the Grant-Maintained unit at the DES and the 2 full time officials of the Trust;

- a significant proportion of sponsorship offered when the Trust was set up is for charitable purposes - but charitable status has not been granted. Paying for providing information is

a problem. Meanwhile, local authorities and their associations have been able to mobilise all their resources - in one case providing 50,000 leaflets and in another spending £11,000 to campaign in two schools;

- Steve Norris, the Chairman of the Trust, is finding it difficult to devote more than a few hours per week to the Trust in view of his commitments as an MP, the running of his own business (including new acquisitions), his non-executive directorships and his Chairmanship of Crime Concern.

- Andrew Turner, the Director of the Trust, is thought by a number to whom I have talked, not to be well-suited to his position.

- John MacIntosh, whose school, The Oratory, has aplied for G-M status, said the Trust was not well organised - it lacked drive, energy and commitment. He was highly critical of key personalities and said that the G-M Trust had allowed DES officials to be in the driving seat, which worried him greatly.

Because of the chaotic way in which the G-M Trust is being run, there are two major concerns:

a. the 10 G-M schools which will be up and running by this September will not have had time to set up properly and will, therefore, be a poor example to others;

b. after the initial interest in G-M status and because there is no clear marketing strategy, we might well see loss of momentum in G-M schools next year. This is bad timing.

Conclusions

1 Opting-out has provoked great interest throughout the country.

2 The G-M Schools Trust is at present failing to capitalise on this interest: it is not well-directed and its trustees seem to play very little role, if any.

3 The G-M initiative contrasts badly to the CTC initiative.

Recommendations

Could we discuss these as they raise delicate issues?

Brian Griffiths

BRIAN GRIFFITHS

PA.

10 DOWNING STREET
LONDON SW1A 2AA

From the Private Secretary

12 April 1989

HENDON SCHOOL

The Prime Minister was grateful for your Secretary of State's minute of 11 April. She has noted the terms of your Secretary of State's decision.

Paul Gray

Tom Jeffery, Esq.,
Department of Education and Science.

DW.

cc P.Y.

Prime Minister

You will wish to be aware of this announcement today. RRCG 11/4

PRIME MINISTER

I am writing to let you know that I have reached a decision on the proposal by the governing body of Hendon School for the acquisition of grant-maintained status for the school with effect from 5 September 1989. I have carefully considered the arguments put forward by the governing body and the objectors and have decided to approve the proposal. I have also decided to reject the proposals published by Barnet Education Authority to cease to maintain Hendon and Whitefield Schools and to establish a new county secondary school with effect from 1 September 1990.

Officials are writing today to the Chairman of Hendon School's governing body in the following terms:

"With reference to the proposals published by the governing body of Hendon School on 12 January 1989, I am directed by the Secretary of State for Education and Science to say that the requirements of section 62(2) of the Education Reform Act 1988 relating to the publication of proposals having now been fulfilled and the period of 2 months after the date of publication having expired, the Secretary of State has considered the proposals for the acquisition of grant-maintained status for Hendon School with effect from 5 September 1989.

The Secretary of State, in exercise of the powers conferred on him by section 62(11)(b) of the Act, hereby approves the proposals.

I am writing to the objectors to inform them of the Secretary of State's decision."

MS

KS.

KB
DEPARTMENT OF EDUCATION AND SCIENCE

11 April 1989

10 DOWNING STREET
LONDON SW1A 2AA

From the Private Secretary

11 April, 1989.

I am writing on behalf of the Prime Minister to thank you for your letter of 10 April.

I know Mrs. Thatcher will be very interested to see this progress report.

Dominic Morris

Cyril J.H. Taylor, Esq.

cyril TAYLOR

24/4

FILE

KK.

10 DOWNING STREET
LONDON SW1A 2AA

(1) 26/4
(2) 21/5/89

From the Private Secretary

10 April 1989

I attach a copy of a letter to the Prime Minister from Mr. Cyril Taylor. I should be grateful if you could let me have advice by Friday 14 April on his point about the use of Section 92 and opting out to increase the number of CTCs. What are the implications.

(DOMINIC MORRIS)

Peter Swift, Esq.,
Department of Education and Science.

cc PU

10 DOWNING STREET
LONDON SW1A 2AA

From the Private Secretary

7 April 1989

Dear Stephen,

The Prime Minister was grateful for your Secretary of State's minute of 5 April, and has noted his plan to publish the HMI Report on 10 April.

I am copying this letter to the Private Secretaries to memebrs of E(EP) and to Sir Robin Butler.

Yours,
Paul

(PAUL GRAY)

Stephen Williams, Esq.,
Welsh Office.

CITY TECHNOLOGY COLLEGES TRUST

15 Young Street London W8 5EH
Telephone: 01 376 2511 Fax: 01 938 1961

Please reply to:
37 Queen's Gate
London SW7 5HR

Tel: 01 581 2733
Fax: 01 225 1918

6th April 1989

The Rt Hon Margaret Thatcher MP
Prime Minister
10 Downing Street
SW1

Confidential

Dear Prime Minister,

You will be pleased to learn that there is now sponsorship for nineteen City Technology Colleges, with total private sector support pledged of £36,000,000. We are hopeful that the final sponsor, probably for Liverpool, for the initial twenty CTCs will be confirmed shortly.

Among the more interesting developments recently have been the following:

1. Support of the Church of England. The Church of England Southwark Diocesan Board of Education recently voted to consult parents on their proposal to convert the Bacon's school, Bermondsey, to a City Technology College in new premises on the Surrey Docks. If agreed the Church would donate £1,500,000 of support and Sir Philip Harris has pledged £1,000,000. The governors agreed to consult parents on this proposal by eleven votes to one. The final decision following consultation will be taken in mid-June.

2. Brent City Technology College. We have secured £1,000,000 of support from Michael Ashcroft and £300,000 from Stephen Rubin for the establishment of the Brent City Technology College. We also have the support of the Harlesden Peoples' Community Council, whose Chairman, Leonard Johnston, is known to you. Negotiations are proceeding with Brent Council to purchase the Sladebrook School from Brent Council for conversion to a City Technology College. If these negotiations are not successful the governors of Sladebrook may recommend to their parents opting out of local authority control in order to convert Sladebrook to a City Technology College. We are investigating whether or not parents can opt out of local authority control and then use Section 92 of the 1988 Education Act to re-establish their school as a City Technology College. If this proves to be feasible it would provide an avenue for many inner city schools situated in hostile local authority areas to become City Technology Colleges.

3. Support of the Corby District Council. The Labour controlled Corby District Council is the first Labour Council to give support to the establishment of a CTC in its area. They have encouraged us to put in planning application for the proposed Corby City Technology College. This school would be sponsored by Mr Hugh de Capell Brooke with a donation of ten acres of land and a cash contribution, together worth an estimated £4,000,000. The project would have the support of British Steel and other employers in the Corby area. As you may remember, the British Steel plant in Corby was closed in the 1980s with a loss of 12,000 jobs. Unemployment rates

Contd/...

subsequently reached 30% but have been substantially reduced by the positive attitude of the Corby Council in seeking out support for the new employers. New housing is now being built but there is concern about the standard of education as there is a shortage of skilled workers in the area.

4. Liverpool City Technology Colleges. Through the enthusiastic support of Philip Carter, Chairman of the Merseyside Development Corporation, a four acre site in Toxteth has been purchased for a City Technology College. The Merseyside Development Corporation is now assisting with the acquisition of an additional three acres contiguous to the site which, on a combined basis, would provide a superb site for a CTC. We are hopeful that sponsorship will be secured from John Moores of Littlewoods, or the Royal Insurance Group or possibly Paul McCartney, for this school.

   Negotiations are also proceeding with the Eldonians and Archbishop Worlock to convert a Catholic school in the Vauxhall area of Liverpool to a CTC. Mr Tony McGann, Chairman of the Eldonians, whom you met on your recent visit to Liverpool, is a strong supporter of City Technology Colleges, as is Monsignor Dunn, the Vicar General of the Liverpool Roman Catholic Diocese. Negotiations are at a delicate stage with Archbishop Worlock and their success cannot be assured. However, it appears that the Liverpool City Council, who have been consulted about the proposal, are indicating some support for the idea. Mr John Moores, Director of the Littlewoods Organisation, has said that, providing Archbishop Worlock supports the proposal and there is at least a neutral response from the Liverpool City Council, his company would donate a substantial sum of money towards the establishment of one or more City Technology Colleges in Liverpool.

Although there is still considerable work to be done on finding sites, the CTC Trust is confident that all the initial twenty CTCs will be open by September of 1991. These are likely to be situated in the following areas: Bradford, Brent, Bristol, Corby, north Croydon (two), Dartford, Derby (or Walsall), north Docklands, south Docklands, Gateshead, Glasgow, Lewisham, Liverpool (one or two), Manchester, Middlesbrough, Nottingham, Solihull, Swindon and Telford.

Considerable effort is now being made to ensure that (a) educational standards in each school will be of the highest quality and, (b) the curriculum of each CTC is as innovative as possible. Our Chief Executive, Susan Fey, hopes to secure support both from the Government and sponsors for curriculum development in such areas as computer studies, business studies, electronics, engineering, financial services and design.

The CTCs which have already opened or are about to open in Solihull, Middlesbrough and Nottingham have proved popular with parents and prospective parents. Twelve hundred applications were received for the 180 places for this September's intake at Solihull, even though the school only opened 8 months ago.

Assuming a similar level of acceptance in the other CTCs we hope that the Government will support a considerable expansion of City Technology Colleges. We are therefore preparing proposals which would achieve this at reasonable cost by converting existing schools to CTCs.

Yours sincerely,

Cyril J H Taylor
Chairman

CONFIDENTIAL

10 DOWNING STREET

LONDON SW1A 2AA

From the Principal Private Secretary

5 April 1989

Dear Tom,

EDUCATION GARDEN PARTY

The Prime Minister has seen your Secretary of State's minute of 3 April inviting her to attend the special Garden Party which he is organising for teachers in maintained schools and F.E. colleges on Tuesday 25 July. The Prime Minister would be happy to attend this after Questions that day, though she would wish that, in the detailed planning, her arrival is arranged to avoid a clash with that of The Princess Royal. Could we have a word about that nearer the time?

Yours sincerely,

Andrew Turnbull

ANDREW TURNBULL

Tom Jeffery, Esq.,
Department of Education and Science.

CONFIDENTIAL

PRIME MINISTER

Prime Minister

Brian sees no reason to object to publication.

RLG 6/4

HMI REVIEW OF EDUCATIONAL PROVISION IN WALES 1987/88

I enclose a copy of the HMI report on educational provision in Wales during the academic year 1987/88.

I believe that the report presents a fair and balanced picture and I recommend publication of this latest report in the series. For the future, the Inspectorate are giving further attention to the development of performance indicators. As the National Curriculum is introduced its associated attainment targets will provide a new range of indicators which can be discussed and used for comparative analysis.

I publish separately public examination results which receive a great deal of publicity and these are therefore not specifically referred to in the report which is a general survey of the state of education. It gives a more rounded view and concentrates on output rather than inputs.

Unlike the recently published English Report, the Welsh Review does not focus specifically on teacher supply matters . The review concentrates on provision of education it was seen during inspections and other visits in 1987-88 and it was not the experience of HMI that there was a major difficulty with teacher staffing in that year. There are however acknowledged shortages of Welsh-medium teachers and steps are being taken to tackle this.

The report is the Chief Inspector's independent view which if it is to be published at all must be published in full and I propose to do so on Monday 10 April. I also plan to issue a Press Notice commenting on the report and I enclose a draft for information.

I am copying this letter and enclosures to other members of E(EP) and to Sir Robin Butler.

5 April 1989

PW

DRAFT PRESS NOTICE

file note PG.

The 7th Report* in the annual series prepared by HMI Inspectorate of Schools on the provision of education in Wales was published by the Welsh Office today.

The report is a broad survey covering all sectors from primary schools to higher and further education (including teacher training) and is based on visits to schools and colleges by HM Inspectors during the school year 1987/88.

The Secretary of State for Wales, Mr Peter Walker, welcomes the report and said that he was heartened at the response of the education service to the changes it had faced and that he shared the HMI view that it was well placed to achieve most of its goals.

'At the primary level the report shows that there have been considerable developments in the service,' he said. 'However, there is still a need for improvement in the development of assessment and professional skills to ensure a better match between pupils' abilities and the tasks set them in line with the broader aims of the curriculum and the National Curriculum attainment targets, particularly in the Welsh language.

'In the secondary sector the influence of the GCSE examinations is having effect beyond those classes immediately involved with it. Its impact on teaching and learning approaches has been profound and beneficial although there is a significant level of underachievement which needs to be dealt with'.

Mr Walker said 'This needs to be tackled by improved standards of practice and leadership especially at departmental level within schools.'

'I am particularly concerned at the loss of subjects like German from the curriculum in some schools,' said Mr Walker. 'This is a trend that must be reversed in the light of the forthcoming European Single Market in 1992'.

/'In higher and

Education

'In higher and further education I am pleased to see the development of good practice associated with work experience placements, enterprise activities and integrated approaches to craft and technician courses. This is clear evidence of good work and team planning and departmental level and of response to the changing needs of industry and students.'

Mr Walker continued 'There is much to do in the vital area of attracting more adults into education and training if we are to maintain and improve out international competitiveness.'

'The basis of good education provision is an effective teaching force and this depends on both initial and continuing teacher training. Substantial changes have occurred in initial training with opportunities for computer aided learning developing in all teacher training institutions in Wales. The development of in-service training has progressed after a low start in some LEAs and the full impact of the LEA Training Grant Scheme has had a widespread effect on schools and further education.'

'There remains much still to be done by headteachers and senior staff to follow up and monitor the effect of in-service training if the best use is to be made of the resources available.'

'The report shows that the education service in Wales has responded well to the challenging demands that have been and will continue to be placed upon it.'

*HM Inspectors' Review of Educational Provision in Wales 1987-88 is published by the Welsh Office Education Services Division, Cathays Park, Cardiff. Copies are available free of charge on request in writing or by phone on Cardiff 823360.

A Report by
HM Inspectorate (Wales)

REVIEW OF EDUCATIONAL PROVISION IN WALES

1987-88

Welsh Office

HM INSPECTORS' REVIEW OF EDUCATIONAL PROVISION IN WALES, 1987-88

This review has been prepared on the basis of extensive visiting of institutions in all phases. The visits were of various kinds; many were conducted by teams of HMI and culminated in the publication of a report. There were 119 formal inspections and surveys in 1987-88 and 132 reports were published. In the course of their inspection visits to schools and colleges HMI have been concerned to observe and assess classroom practice and monitor the effects of policies on teaching and learning. It is these observations which loom largest in the body of the report.

Considerable change and development have occurred in all aspects of education. LEAs have been obliged to respond to a number of central initiatives and at the same time to manage the system in such a way that it is prepared for the even greater changes ahead. Statutory changes in the **government of schools** have occasioned considerable administrative effort but the involvement of the body of parents in the process of school government has been slight. On the other hand, meetings of HMI with governing bodies as part of the process of formal inspection and reporting have suggested that, in their former and reconstituted form, these bodies are showing an increasing interest in a range of matters to do with school management, including the curriculum.

LEAs have responded to the numerous curricular challenges of Education Support Grants (ESG) and those anticipated in the train of the Education Reform Act (ERA) by reviewing and in several cases reorganising their **advisory services.** There has been a substantial increase in the number of advisers in post, largely in response to the Government's new educational initiatives and facilitated by specific funding associated with some of these initiatives. In most individual authorities between one and four new advisers have been added in subjects such as English, science, information technology, modern languages, humanities and home economics, and in general secondary and primary phase work; each LEA has appointed an INSET coordinator. One authority which formerly had a small force of advisers has doubled the size of its team. Despite these increases, gaps in subject coverage remain in all LEAs, including, variously, in Welsh, English and religious education, all of considerable significance in view of the preparation needed for the implementation of the National Curriculum.

The structure of advisory services has improved: each LEA now has a chief adviser and there is generally greater clarity of job specification. However, the proportion of advisers' time given to work in schools, with senior staff and especially with class teachers, has in most cases reduced as the burden of administrative responsibility, not least related to the introduction of the LEA Training Grants Scheme (LEATGS), but also to closer working with officials and committees of LEAs on a range of administrative tasks and decisions, has increased. It is a matter of some concern that the role of advisers as direct disseminators of good practice and innovation has diminished and that there has been little development so far of their inspectorial role.

In most authorities striking increases have occurred in the numbers of **advisory teachers,** full and part-time, many funded by ESG, and mostly limited term appointments. More than 20 new posts have been created in two LEAs and the smallest increase has been five. Advisory teachers are usually responsible to an adviser and their roles and methods of working tend to differ according to the kind and quality of the guidance they receive. Few have job descriptions and there are no induction schemes or staff development plans for them. In general, their work has been more effective where it is

clearly guided and monitored, but the response of schools to their deployment is everywhere positive. They work alongside teachers in classrooms and are able to discuss approaches and the response of pupils on the basis of direct, often shared, experience. The stimulus given to science and mathematics teaching in primary schools by ESG-funded advisory teachers has continued to be particularly noteworthy. Provided schools support their work with appropriate preparation for and follow-up to their visits, the influence of advisory teachers on programmes of study is significant and beneficial.

Authorities have continued to review their **curriculum policy** statements. All have statements about the position of Welsh, and religious education is covered by agreed syllabuses, but there is great variation in the coverage of other subjects. Policy documents may remain in draft form for a considerable period or may be produced in the form of guidance based on work stimulated by the LEA in a particular group of schools. Groups of schools and governing bodies have occasionally cooperated in the devising of policy guidelines for health education and a few LEAs also have policy documents dealing with issues such as multi-cultural education and assessment. Whatever their status, these documents are welcomed by schools and generally have a beneficial effect. Few of them, however, are adopted as the basis on which individual school policies can be established. The advent of the National Curriculum will not remove the need for policy statements at LEA and school level; it will rather provide the wider framework within which such statements can be set.

Local Financial Management (LFM) has been taken up as a substantial and pressing issue in one LEA but has received more tentative and cautious treatment elsewhere. In the pilot exercises so far mounted LEAs have experimented with the delegation of a range of financial responsibilities, extending from the power to authorise small maintenance jobs to the full disposal of large secondary school budgets (including teaching staff costs). The initial requirements have indicated the need for continuing support for headteachers and the benefits of computerised accounting. The LEAs which have ventured farthest have tended to involve convenient groups of primary and secondary schools and have not excluded primary schools where the roll is below that statutorily required.

The year saw the introduction of the new **teachers' conditions of service.** These, concurrently with the improved arrangements for in-service education and training (INSET) associated with the LEATGS, have brought a more carefully structured dimension to the process of staff planning and consultation and to in-service programmes. A major development in most schools has been the institution of a planned sequence of meetings of whole staffs at primary level and, at secondary level, of senior staff, of departmental and pastoral teams and of working groups of various kinds. Although it is too early to assess the impact of such consultations upon the quality of pupils' work, first indications are favourable. There has been an encouraging move towards the regular and minuted discussion of topics which are of direct relevance to the quality of pupils' learning. In primary schools this has led to fruitful debate about whole-school schemes of work and the role of the curriculum leader, while in secondary schools the curricular and assessment implications of GCSE have provided a valuable focus. Worthwhile improvement in the quality of schemes of work and other departmental guidance materials has often followed, promising greater coherence and consistency in pupils' learning.

It was immediately apparent that a vast increase in the volume of INSET was occurring. This was inevitably accompanied by an increase in the absence of teachers and in the call upon supply cover, which were matters of considerable concern to headteachers, governors and parents. Overall, absence due to INSET probably accounted for some 2% of a total teacher absence rate of 5% to 6%.

Expressed in these terms it does not seem excessive but any teacher absence entails some discontinuity in pupils' learning and most schools had the unfortunate experience of losing several members of staff on particular days because of the coincidence of relevant INSET events in the programme. It rarely proved possible to obtain supply teachers who matched in their subject qualifications and the age range for which they were trained the permanent staff whom they replaced, and occasionally (in some districts more frequently) it was difficult to obtain any supply cover.

These problems associated with the scheme were mitigated by the new conditions of service which provide for five non-teaching school days annually, most of which are normally given to INSET, and a certain amount of 'directed time' beyond the timetabled day which again may be used for the professional development of staff. In the course of the year LEAs also made use of residential weekends to provide training and thereby reduce the need to withdraw teachers from their classes during the school day. The numbers of training days provided under the scheme by the end of its first full year were impressive, ranging from rather more than 11,000 in a small authority to over 40,000 in one of the larger LEAs.

Very few primary schools have established a policy for **assessment and recording** which adequately covers the range of aims and objectives which they have set for achievement by their pupils and teachers. There is an evident link between generally good standards of work and a satisfactory framework for assessment. Where good standards are achieved, pupils and teachers are actively involved together in the process of education and in the course of constant interaction are continually modifying their teaching and learning to take account of difficulties encountered and challenges and opportunities perceived. In this way both teachers and pupils are in effect assessing achievement and planning for improvement. All schools assess and record pupils' development in language (but more particularly in reading) and in mathematics. In a substantial minority of schools this may mean little more than recording their progress through the commercial mathematics scheme (using the materials provided in the scheme) or recording the pages read and books completed in the reading scheme. But the majority go somewhat further and at least note some of the particular difficulties which individual pupils encounter. A few schools have worked together in catchments to produce lists of objectives for oral and written work in Welsh against which pupils' progress is monitored. A small minority keep samples of pupils' work in a cumulative folder. Assessment and recording in the remainder of the curriculum are irregular and inconsistent - and very superficial or non-existent in a substantial minority of schools. In the early years many teachers keep a personal record of the ways in which pupils respond to schooling. These are frequently illuminating records, though they tend to be principally concerned with pupils' social, personal and emotional rather than cognitive development.

The development of whole-school assessment policies continued to occupy the attention of many secondary schools. In practice, the impact of these policies on assessment practice in the classroom has been variable. Overall, however, the significant improvement noted elsewhere in the range and quality of subject learning experiences (particularly in GCSE classes) has been matched by a corresponding and welcome broadening of the scope and techniques of assessment.

An increasing number of primary and secondary schools have also designed satisfactory systems for detecting and acting upon under-achievement at a general level, but only rarely is the assessed work of under-achieving pupils followed-up at subject level by being used as a platform for further tasks to

remedy weaknesses. Similarly, however detailed assessment procedures are at primary and secondary level,they are seldom used as a means of differentiating tasks in order to promote the development of either the able or the less able pupil.

The year saw the conclusion of the first three-year phase of development of the **Records of Achievement** (RoA) ESG project, in which 30 secondary schools were involved drawn from all Welsh LEAs. The main focus of the work in most of these schools was the devising and refining of banks of comments which formed the basis for the reporting of pupils' attainment in the document issued to school leavers, and developing the systems needed to carry out the compilation itself. Significant changes in learning and assessment strategies occurred, though, as indicated above, RoA was only one of several influences on practice. RoA helped to enhance the role of form tutor and have, in general, promoted better tutor-pupil relationships. However, their use as a vehicle for continual negotiation with individual pupils over academic progress across the curriculum has been much less prominent. Pupils and staff are on the whole favourably motivated in relation to RoA, but many have a limited perception of the process as a means of providing a public summary of attainment for the benefit of users. In short, summative rather than formative purposes have tended to be dominant in the early work of schools.

In the primary phase there have been no significant changes in the character of **premises** during the year. Schools continue to make generally appropriate use of the buildings they have. There is a growing realisation of the importance of display, and standards of mounting are rising slowly. However, it is still a small minority of schools that make consistent and effective use of display to enhance pupils' learning.

As a result of the continuing reduction in pupil numbers, many secondary schools now have surplus places and the organisation of rooms in subject suites has become the norm. A considerable number continue to reflect inadequate standards of maintenance and decoration. The kinds of minor defects exemplified in the 1986/87 report continue to be commonly visible. There are, however, a growing number of schools with recently constructed buildings of high quality, and others where there have been successful recent refurbishment programmes. These improvements are to be warmly welcomed, but they have tended to emphasise further some sharp contrasts in the quality of accommodation between schools. Where schools are still in divided premises, the maintenance of buildings on sites with a limited, but uncertain, life span presents particular problems. Certain of these buildings are among the least satisfactory now used by secondary schools, in some cases despite considerable expenditure on improvements. Significant improvement has been achieved in some buildings at relatively modest cost.

Resources remain generally as described in last year's report. In the interval there has been increased expenditure on education overall and a continuing fall in pupil numbers. LEA capitation for schools' expenditure continues to be substantially supplemented by parents' fund-raising efforts. In one LEA about £18,000 was collected by various primary schools in the period of review for the resourcing of information technology alone. The range of items purchased with these funds is wide and includes some used directly in the day-to-day work of schools.

The use of microcomputers has continued to develop slowly in primary schools. A good deal of the work remains reinforcement of basic skills in language and mathematics and the use of computers as tools of learning across the curriculum is limited. However, an increasing number of schools are beginning to use the technology in the tabulation of data, simulation exercises, word-processing and control technology.

The use of **information technology** (IT) in the curriculum of secondary schools has been further strengthened. A growing number of schools now provide foundation familiarisation modules in keyboard skills and the use and applications of microcomputers at several levels. Where this prepares pupils to use IT as an aid to learning across the curriculum, the practice has considerable value, though in some schools the amount of curriculum time devoted to such modules is excessive. Appropriately, several schools have reduced their provision of specific GCSE computer studies courses in order to free resources for other subjects to develop computer assisted learning. There has been some encouraging growth in the application of IT in curricular subjects, for example in mathematics, science, geography, history and remedial education, but there is room for considerably more development in most schools.

During the year there has been much activity designed to strengthen **schools-industry links.** Work experience schemes for pupils and students in the 15-18 age range are now organised by most secondary schools in Wales and the provision has been expanded in many to include all pupils in their final year of compulsory education. An increasing number of schools seek to organise work experience as an integral part of the curriculum and consequently invest much time in preparing for, monitoring and following-up such experience. Most success is achieved in the context of pre-vocational courses or within a broadly-based careers programme or where placement is linked to a particular course such as child care or business studies. In a minority of schools efforts have also been made to capitalise on work experience within departments such as English, mathematics and information technology.

Teacher secondments or extended visits into industry have taken place in over three-quarters of the schools of Wales, though the number involved vary considerably from LEA to LEA. The length of the placements varies from one week to one term. The general aims of the placements are to identify the implications of industrial practices for the school curriculum and to investigate the relevance of company processes and procedures regarding management and staff development to the school situation. The industrial or commercial experience sometimes results in direct and immediate changes in the curriculum, especially when the teachers have been seconded specifically to update their knowledge and expertise in areas such as business studies and technology. Generally, however, the impact on the work of the school is more indirect and is reflected in changed attitudes and a greater readiness to use industry as a resource for learning.

Aspects of Provision in Primary Schools

The academic year 1987/88 has seen the beginnings of significant change and improvement in provision and in standards achieved. The major changes embodied in the Education Reform Act have been the subject of much professional discussion and the gradual implementation of the LEATGS and of teachers' new conditions of service has given fresh impetus to staff and curriculum development. As a result, many primary schools are more aware of the educational challenges that face them and better placed to make an appropriate response. The grouping of schools for the purpose of discussing INSET needs and implementing training, together with the requirement for school staffs to meet regularly as part of additional duties, has produced a good deal of progress, particularly in fields which will be of prime concern in implementing the National Curriculum.

In the development of **oral and listening skills** in English and Welsh (first language) which begins well in most reception classes, there has been evidence of increased awareness of the value of systematic strategies to stimulate oral

communication. Pupils are encouraged to listen to good stories well told and to give in their own words their reactions to them. They are also encouraged to listen carefully to the teachers and to what other pupils are saying. The great majority of pupils learn to do so in a way that facilitates their learning and enhances their social development. Though many suitable learning activities and resources are employed to achieve these goals, only a small minority of schools make regular and consistent use of drama, audio-cassettes and broadcasts in the process.

A notable feature of the work in **reading** is the variety of approaches used; few schools adhere to a single method. The child often begins by reading the transcription of his utterances made by the teacher. This pertinent linking of speech and reading (and eventually also writing) tends too often to be seen as a transient initial procedure rather than a teaching skill of continuing worth. Subsequent stages in the process of learning to read depend substantially on reading schemes, the use of which often persists beyond the point of profit for the pupil. There have been encouraging signs, at infant and junior level, of the continued growth of schemes which involve parents in the enjoyment of reading, and more particularly in junior classes of the increasing incidence of periods set aside for quiet reading by both staff and pupils. In the great bulk of schools however, reading is still inadequately employed as a natural and regular adjunct of pupils' work. The principal weakness at junior stage in all but a small minority of schools remains the inadequate development of the higher reading skills (for example, scanning for information) and the tendency to emphasise insufficiently the importance of reading for pleasure.

In the early stages, pupil's **writing** may range widely over their experiences, but as they mature, the content may become constrained by the need to respond to unduly circumscribed tasks so that the content and the variety of modes and styles narrow when they might be expected to expand. The practice of discussing work in progress with a view to redrafting has increased, but is still confined to a small minority of schools, as is the use of the word-processor for this purpose. The practice of setting writing exercises (frequently of comprehension), which require mechanical responses from pupils and which are unconnected with pupils' needs or other work, continues - but in a decreasing proportion of schools. It has become increasingly common to find schools where such practices are entirely eschewed, though it may not follow that other more effective approaches have taken their place.

Very few schools do not have some form of guidance for work in language but, despite the new emphasis on whole staff discussion, the quality of such documents remains variable. Only a small minority of schools have coherent policy statements which map out the work to be covered, the stages by which progress is to be made and the arrangements whereby pupils' performance is to be assessed. The need for such coherent schemes is particularly manifest in those schools which teach through the medium of both English and Welsh.

The standards achieved overall in the first language have continued satisfactory - but there is no room for complacency. There is an unacceptable degree of under-expectation of and underachievement by pupils in a significant minority of schools.

There continues to be considerable variety of provision for the teaching of **Welsh as a second language**. In a large majority of classes oral work is well conducted, using a variety of activities and resources which require pupils to answer a modest range of questions, and a satisfactory standard is reached. Where the work is allocated a substantial period of time daily and is supported by visiting teachers (athrawon bro), higher standards are generally

attained. In these circumstances many pupils can sustain a simple conversation in Welsh about their own friends and interests, and may be able to write in their own words in Welsh. Where schools have only limited staffing and other resources for the teaching of Welsh, they tend to concentrate on achieving continuity across the oldest age groups, with a view to ensuring progression from primary to secondary. In general, the standards achieved in relation to fairly limited objectives are adequate, though only very modest progress is made in about a third of schools.

Work in **mathematics** has been significantly influenced during the year by the work of advisory teachers (operating under the aegis of ESG) and by professional discussion of the interim report of the mathematics subject working group (SWG). The designation of 1988 as Primary Mathematics Year has also stimulated considerable activity, for example, in the form of preparation for exhibitions. Work in mathematics in most schools, and especially with older pupils, continues to be heavily influenced by and dependent on the published schemes employed. These ensure a reasonable degree of continuity and progression and an adequate range of experiences but do not, unless adapted, provide tasks designed to meet the particular needs of individual pupils. There is a general tendency to depend too heavily and too exclusively on such schemes; in so doing, schools often give insufficient prominence to practical work and to the development of mathematics skills elsewhere in the curriculum.

Pupils' early mathematical experiences are in general appropriately practical and designed to help them understand basic concepts. These foundations are well laid in a substantial majority of schools. Work in number and certain measures is generally done well and most pupils gain a good understanding, though the absence of working clocks from the majority of classrooms hinders work on telling the time and the lack of a direct water supply often limits work on capacity. Young pupils handle many three-dimensional shapes but are more secure in the identification of those of two dimensions.

Later work in mathematics still tends to involve pupils in excessive practice of certain well-mastered but sometimes inappropriate or unnecessary procedures at the expense of more pertinent skills. New topics are introduced and good work is often done, but development in some aspects of measures and decimals is often less successful.

A majority of schools have begun to review the published schemes they use and to consider the broadening of their aims in mathematics. There is in these schools an increasing emphasis on investigative and active modes of learning, stimulated in a few cases by consideration of the use of calculators and microcomputers. Standards in mathematics are adequate overall; the principal weaknesses remain the difficulty many pupils have in applying the skills they have learnt to the solving of problems, and mental facility.

The year has seen further expansion and progress in the teaching of **science**. The beneficial effects of the work of advisory teachers continue to be felt and the process of raising awareness of science and of developing teachers' expertise has gathered pace. The interim report of the science SWG has given further impetus to the trend. Much of the science done is still based on nature study, particularly at infants' level, but there are encouraging signs that physical science is receiving more attention at junior level and that profitable links are being forged between science and other areas of the curriculum (mathematics, environmental studies and technology) in older classes. The principal weakness remains the lack of continuity and progression in pupils' learning. It is still uncommon to encounter schools which have a coherent policy designed to ensure proper progression in pupils'

scientific learning. As a result, the standards achieved overall remain variable in the great majority of schools.

The above paragraphs indicate that the year has seen significant advance in teaching and learning in those areas of the curriculum which constitute the core subjects of the National Curriculum and which have been the focus of national and local initiatives. There has been less development in other subjects. In the general area of the **humanities** (which is variously designated by schools) practice continued to be uncertain and standards less than satisfactory. It remains the case that the planning and organisation of the work frequently lack the necessary underpinning of clear aims and objectives drawn from the various disciplines involved and of agreement on what constitutes adequate continuity and progression. The position of **religious education** gave cause for particular concern. Despite the availability of agreed syllabuses, the work frequently lacks continuity and progression and there is either a marked shortage of appropriate resources or poor use of those available. Religious education remains predominantly christian in character in the great majority of schools, but, although they hear many bible stories and listen to accounts of the lives of prominent christians, pupils are rarely led to an understanding of the nature of religious experience and gain few insights into other faiths.

A great deal of the work in **history** and **geography** remained uncertain of purpose. A small minority of schools have provided good examples of work in history which begins with the world of the child and, through extension to the near and subsequently to the remoter past, eventually equips pupils with a sound understanding of chronology, the nature of evidence and the essential character of history. In the great majority of schools, older pupils have a poorly developed sense of chronology and little understanding of the nature of historical evidence and interpretation. Pupils empathise well, but their understanding of concepts such as cause and effect is limited.

Geography is frequently given much less emphasis than history. In a small minority of schools mapping skills are taught systematically, beginning with scale plans of objects within the classroom and later the classroom itself, before moving in due course to the interpretation of ordnance survey maps. In these few schools pupils may eventually come to a good understanding of some aspects of the relationship between man and his environment. These pupils may also achieve a worthwhile understanding of the relationships between history and geography in the context of the immediate or wider environment. But, in general, the work continues to place undue emphasis on the acquisition of facts at the expense of the development of skills and concepts. Standards overall are unsatisfactory.

The nature and standards of work in **creative-aesthetic subjects** (art, craft, physical education, music and drama) were generally satisfactory. In art, pupils are encouraged (to good effect) in the early years to use a wide range of media and to execute work on a large scale, though there is still a tendency to make undue use of templates rather than children's own images. Later stages tend to see a reduction in range and scale - and frequently in function - though examples of more challenging and sophisticated work may be seen in a minority of schools.

Work in craft has reflected to a slightly greater degree current interest in design technology, but these developments also remain confined to a small minority of schools. Modelling and other forms of construction in three-dimensions are generally neglected. The junk modelling and large block construction activities of the earliest years are seldom developed later. There are, however, encouraging examples of work in control technology and in the construction of working models.

Singing of at least satisfactory and frequently of a good standard remained the staple of pupils' **musical** diet, but instrumental work is an increasingly prominent feature of the great majority of schools. Recorder groups add variety to many school assemblies and a good level of instrumental tuition (mainly on strings and wind) is maintained in most LEAs. The increasing use of modern sol-fa techniques is proving generally effective. The weaknesses include lack of sufficient opportunity to listen to music, to create music using a range of sound sources and to engage in incidental music-making within the classroom.

Standards in **physical education** are sometimes subject to constraints of site and premises, but remain at least satisfactory and are often good in individual classes. Gymnastics and games form the bulk of the programme and there has been little development during the year of dance and forms of expressive movement. Swimming is carefully organised (at some cost in time) and generally pupils make good progress. There has been a welcome trend towards the teaching of a range of games skills to small groups of pupils as a sensible preliminary to the teaching of team games, which often feature in extra-curricular provision.

Drama enjoys continuing support from the visits of Theatre in Education groups and from visiting specialist teachers. Pupils respond well to these stimuli and show that they can achieve high standards in their own dramatisations. But, in general, drama as a part of the everyday work of schools has remained a sporadic occurrence.

Standards of work across the curriculum have continued to be generally satisfactory, but the range of performance is wide, both within and between schools. Little work is of very poor quality; where it is encountered, it can be at least partly attributed to inadequate leadership and a lack of coherence in the school's efforts. There is much potential in the system; when it is realised, excellent work can ensue. About a quarter of the schools inspected by HMI during the year exhibited very good practice in at least one and sometimes in several areas of the work. However, it remains the case that good work in one class can be followed by mediocre in the next. The achievement of consistently good standards through the sharing of experience and expertise in the context of agreed - and nurtured - whole school policies remains an uncommon occurrence.

Very few schools have formal **marking policies,** though there is often widespread informal agreement among staff about their general approach to the task. Most marking is sensitive and encouraging - and is carried out regularly and conscientiously. Marking is rarely selective or focused upon particularly common errors, and haste in completing the marking of large numbers of books can sometimes lead to the unfortunate passing over of significant errors. There has, however, been a welcome development of the practice whereby work in progress is discussed with pupils and, in a few cases, among pupils, with a view to securing improvements during the process of drafting. There has been a slow but perceptible increase in the use of word-processing to facilitate this work.

All but a few primary teachers are trained for the age group they teach. Their **initial subject qualifications** tend to be in arts subjects; mathematics and science are poorly represented, even among recent entrants to the profession. Very few schools have an ideal balance of curricular expertise among their staff and there is little evidence that considerations of this kind are prominent in LEA staffing policies. The majority of schools enjoy both a satisfactory blend of youth and experience and an appropriate measure of stability in their staffing, but during 1987-88 a significant minority have

experienced considerable changes consequent upon the early retirement of heads or the moving of heads between schools. Included among these changes has been the occasional redeployment with inadequate preparation of secondary trained teachers to primary schools.

The **curriculum and organisation** of schools remain very much as described in last year's report and the trends and developments noted there have continued. Improvements in the planning of work in various subjects have been given greater impetus as a result of better focused INSET and through the more systematic discussion which is frequently a feature of the regular meetings of staff. The imminence of the National Curriculum has begun to stimulate the review of existing schemes of work and fresh scrutiny of commercial schemes in the core subjects. There has as yet been little serious consideration of school development plans. The implications for curriculum and organisation of the several publications associated with the National Curriculum which appeared at the end of the year have yet to be digested in most primary schools.

Aspects of Provision in Secondary Schools

The advent of **the GCSE examination** continued to be the most potent influence on teaching and learning, in particular for the year V cohort who, during the year, completed and submitted their coursework for GCSE assessment and sat the first examinations during May and June. However, the influence of GCSE pervaded other year groups also. Fourth year pupils beginning GCSE courses often enjoyed improved provision as schools benefited from their early experience of the courses, while programmes in years I-III continued to be developed, albeit unevenly, under the influence of the curricular perspectives offered by GCSE criteria, syllabuses and learning approaches.

Further extensive monitoring of GCSE work has served to reinforce early favourable impressions of the beneficial impact of the new examination. The most significant improvements have been: the provision of a richer and better-balanced range of experience; a discernible shift towards learning approaches calling for more personal investigation by pupils, at the expense of the learning of received information; and a generally positive and successful response by pupils of all levels of ability to the wider opportunities offered.

Although there is some (in a few cases considerable) distance to go before the improvements associated with GCSE are confidently and consistently integrated into normal provision, the gains have been substantial and widespread. It is also now possible to identify rather more clearly some features of teaching and learning which need further attention. In some subjects, notably the sciences and humanities, a satisfactory balance and relationship between the exposition to pupils of subject content and the provision of opportunities to develop the skills of data analysis has yet to be achieved. There is a continuing tendency in some subject departments to overload pupils with detailed factual material transmitted by various methods and in different forms. The pupils' ability to apply knowledge and understanding to real-world situations is often insufficiently developed and, where the necessary skills are emphasised, they tend to be taught in isolated contexts rather than integrated with the acquisition of knowledge and understanding. For example, such criticisms apply, in varying degree, to the role of laboratory practical work in science, map skills and fieldwork in geography, and work associated with the development of empathy in history. Pupils have valuable opportunities to experiment, to analyse data and to draw their own conclusions, but they sometimes do so without achieving adequate understanding of underlying contexts and principles.

Certain elements of pupils' learning which have been accorded new or increased emphasis within GCSE courses are not yet accorded a secure place in many schools. Prominent among these are design and problem-solving experiences in practical subjects (CDT and home economics in particular); investigatory work in mathematics where various techniques and processes are applied in combination in problem-solving settings; and the integration into science teaching of industrial, business and community-based applications. Weaknesses in these areas are sometimes associated with the lack of progressive development of the necessary skills and insights in years I-III. There are hopeful signs of improvement in schools where learning programmes in years I-III are being reviewed in the light of the enhanced curricular expectations embodied within GCSE. There are also several areas of subject work where GCSE syllabuses have provided better continuity with the learning already being undertaken in years I-III than the O level/CSE programmes they replaced. Examples include the development of oral skills in language teaching, the evaluation of a variety of evidence sources in history, and the extension of music teaching to composition and performing involving a wider range of instruments than formerly.

A feature of most GCSE programmes is the emphasis placed upon the assessment of pupils' coursework. The flexibility in choice of task which coursework offers schools and pupils has facilitated the differentiation of work to match pupils' varying abilities and helped many, at all levels, to show evidence of positive attainment. Some examples presented by abler pupils have been of outstanding quality, while numerous pupils of modest and lower ability have also applied themselves well to coursework tasks and, especially when given appropriate help and guidance, have achieved impressive standards.

Even so, there are weaknesses in the management of coursework by schools, including in particular a strong tendency for schools and pupils to postpone serious attempts to finalise coursework until year V, which has tended to put undue pressure on many pupils in the Spring Term with the bunching of deadlines for submission. Much of the best coursework occurs where pupils are given preparatory experiences which increase their confidence in approaching it, where expectations and procedures are thoroughly explained, and where the progress of the work is monitored, but such practices are far from universal. Often, little time has been allocated to coursework during normal lessons, leaving pupils too much to their own devices. In some subjects, notably English, Welsh (first language) and history, an over-concentration upon coursework geared to formal assessment has left insufficient time for using pupils' work as a vehicle for the resolution of difficulties and the improvement of performance. There is evidence that some of these problems are being ameliorated through better planning and coordination and by making an earlier start on meeting coursework requirements.

Differentiation of learning experiences and expectations to match pupils' varying abilities has remained a problem in many schools. Examples of good adaptation of materials and tasks for pupils of lower ability, where demanding work is set at an appropriate level, and within a supportive setting, are found mainly in teaching groups of relatively homogeneous ability, most frequently lower English and mathematics sets, some of which make very good progress with GCSE work. Less able pupils often find it difficult to keep abreast of work in classes where they are taught alongside abler peers. Even where pupils are encouraged to proceed with tasks at their own pace, the overall learning programme is usually common to all. This may well mean that less able pupils do not get to the most purposeful and challenging tasks, for example those involving the higher data analysis skills or the writing of continuous prose, from which many could profit, given appropriate guidance and support. Such circumstances contribute to the high incidence of unfinished

work in the exercise books and files of some pupils, a feature which is often exacerbated by irregular attendance. The problem is usually not merely one of devising simpler tasks for the less able: equally often it is a case of their needing more help to respond to tasks at a level of which they are capable.

In the organisation of **pupils' writing** there has been a strong move away from the dictation and copying of notes, throughout years I-V in secondary schools. Much of the pupils' writing is thus of their own composition. The best work, typified by that found in most English and Welsh first language, and some other subject departments (though not often consistently within all classes), involves the pupils in writing for a variety of purposes in suitable styles, and is accompanied by the periodic editing and re-drafting of first attempts in order to improve the range and accuracy of pupils' use of language. Outside these departments, even in subjects where the incidence of written work is heavy, pupils' ability to write accurately using appropriate vocabulary and register is, on the whole, disappointing, though there are some notable and praiseworthy exceptions. Short answers to study questions loom large in, and in some cases dominate, the writing programmes. Such work is of very variable quality. Answers rarely exceed two or three lines in length and many are inaccurate or incomplete and show few signs of sensitivity to the use of appropriate vocabulary and register. The poorest work is found where pupils' responses amount to a form of selective copying from texts. Except in some formal coursework assignments, pupils may have little opportunity to synthesise arguments or to select and arrange their thoughts in logical sequence. The heavy use of structured questions of this kind within GCSE written examinations in a wide variety of subjects is tending to strengthen the place of such writing in the programmes of many subjects. There is an associated tendency for pupils' first efforts to be accepted uncritically and for the marking to be too uniformly light to be effective. Even where helpful written comments are made by the teacher, there is often little evidence of selective follow-up action to ensure improvement over a period.

The work of pupils in years I-III was discussed in the 1986/87 report and the findings recorded there still apply. There has been further progress in the review and adaptation of schemes of work, especially (but not solely) in the light of GCSE requirements and perspectives and there is evidence of greater consistency in the standards achieved, both within and between subjects. The vast majority of pupils in years I and II continue to apply themselves well to their studies and achieve good standards in relation to the demands of the learning programme: where the latter are varied and appropriately-pitched, work of high quality results among pupils of all levels of ability.

Nevertheless, a variable (but significant) element of underachievement is evident among pupils throughout this age range. Most of the sources of this underachievement have already been indicated, for example, defects in the range and balance of learning experiences, lack of appropriate challenge in tasks set and, in particular, a too-ready acceptance of pupils' responses to them and a failure to use them as a platform for further development; they are present to varying degres in the work of most schools and departments. Manifestly weak work (inaccurate, inadequate, poorly presented or incomplete) is produced by only a small minority of pupils in year I and II, though by a somewhat larger proportion in year III. Somewhat repetitive work of limited scope and demand on pupils is rather more common. These failings do not apply equally to all schools, nor uniformly within particular schools and departments. Nevertheless, they represent the seeds of underachievement whose most tangible and publicly-expressed outcomes (as, for example, in levels of attendance, public examination success and early leaving) occur among pupils at the end of their statutory school careers.

The **WJEC's Certificate of Education** courses attracted a greatly increased following during the course of the year. Planned with the needs of less able pupils, particularly early leavers, in mind, they are now available in nearly all the most popular subjects and in several more general areas of study. Assessment in most subjects is geared strongly to modules of coursework with, at most, only a minority proportion of marks awarded for a terminal test. The public outcome is a WJEC certificate awarded at pass or credit level in each subject. The growth of entries has been rapid: in 1988 some 7900 pupils, or just under 20% of the form V cohort, from just over 80% of Welsh secondary schools, took the examination in an average of about three subjects each.

Overall, the advent of these courses has been attended by a significant improvement in the quality of work of pupils of limited ability in years IV and V, though in many schools this has been achieved against what was a very low baseline of provision and pupil response. The schemes have provided a vehicle for greater clarity of aims and objectives, a richer and better balanced range of learning experiences and a greater sense of purpose and momentum than was evident in some of the courses they replaced - non-examination courses or, in a few cases, limited grade CSE schemes. The examination has provided a worthwhile target for the pupils concerned and the syllabuses a generally sound basis for course provision. Many pupils are working at least with reasonable diligence, but there is scope in most schools for the setting of higher expectations in some of these courses. There are, as yet, only isolated indications that improved attendance is associated with the introduction of CoE.

Slight improvements in **pupil-teacher ratio** (PTR) in certain schools and LEAs have resulted from a recognition of special circumstances or developments, such as a proven increase in the incidence of pupils with learning difficulties, the assimilation of pupils with special educational needs, or the introduction of GCSE. The greatest source of improvement however, has been in the reduction of pupil rolls without a corresponding fall in the number of staff employed. Some LEAs have a clear staffing formula which permits departures only in exceptional, and defined, circumstances; by and large, such policies work well, within the overall limitations of staffing resources. Other LEAs operate a process whereby proposed reductions in staff numbers to match falling rolls are re-negotiated by LEA officers with individual schools. This gives rise to generally more favourable PTRs, as well as to significant disparities in provision between schools within the same LEA.

There are, in consequence of these and other factors, significant variations in staffing levels among Welsh secondary schools. For example, two schools of not dissimilar size had PTRs of 12.4 to one and 17.0 to one respectively; the more generously-treated school served a market town and the surrounding rural area, while the other was located in an industrial valley and had a much higher incidence of pupils with learning difficulties. In some schools, favourable staffing levels contrast with less generous provision in other aspects, such as learning resources, furniture and non-teaching support (eg laboratory technicians or foreign language assistants). During the run-up to the introduction of full financial delegation such disparities of resourcing, as between different schools and aspects of provision, will require careful monitoring by LEAs.

The match of staff qualifications with teaching assignments is appropriate in the majority of classes, but weaknesses occur in both major and smaller departments. A number of reports and surveys published during 1987-88 referred to the excessive use of non-specialists in English, mathematics and, to a lesser extent, Welsh. It is also not uncommon to find smaller

departments staffed by only one specialist, leaving an undue proportion of lower school work and, in some cases, regrettably, the teaching of less able groups, to be covered by staff with a part-time subject commitment and without adequate formal qualifications. Such circumstances affect the work in religious education in many schools and tend to be associated with poor or patchy provision in years I-III especially. The teaching of history and geography is subject to similar, though usually less serious, constraints in some schools.

Developments associated with the new teachers' conditions of service have thrown into sharper focus the marked variations which exist in the quality of **departmental leadership.** In as many as one-third of visits, there was evidence of significant recent improvement in the range, coherence and consistency of curricular provision, resulting from good departmental leadership and planning. In a similar proportion, however, the lack of adequate structure and consensus was reflected in inconsistencies between the range and quality of pupils' learning experience in different classes, or in different aspects of the work, and in a few cases poor overall standards of work.

Variations such as these have clear implications for **the roles of senior staff** in secondary schools. In general, much of the attention of heads and deputies has been devoted to the planning and implementation of change: the introduction of GCSE, the developments of Records of Achievement, new arrangements for Governing Bodies, improving links with industry, preparing submissions for TVEI extension, and the development of new curricular patterns in anticipation of National Curriculum requirements. Routine administrative burdens continue to loom large in the work of some senior staff and there are some indications that early steps towards financial delegation to schools have tended to increase them. Evaluation and review of provision and the quality of pupils' work have tended to be less in evidence; in a few cases, valuable initiatives in this direction have lost momentum as attention has been turned to the urgent concern of new systems in school management.

The number of senior staff, other than heads and deputies, with general coordinating or administrative responsibility continues to be unduly high in a minority of schools. The new conditions of service have enabled some schools to appoint more senior teachers (now allowance E), but there is a worrying trend towards ascribing to such posts further 'coordinating' functions (for example, for TVEI, RoA, pastoral care, as well as the posts of head of lower, middle or upper school held by many existing senior teachers) which carry no direct responsibility for specific areas, subjects or aspects of the curriculum. Some schools of modest size (eg 700-800 pupils), despite sharply falling rolls, retain as many as seven or eight such staff. The implementation of National Curriculum programmes of study and of assessment geared to the attainment targets will call for the leadership of experienced and well-qualified staff at departmental level. Such roles need to be accorded appropriate importance, and, in many schools, improved status.

TVEI pilot schemes continued in 1987/88 in all eight Welsh LEAs and the comments on this work made in the 1986/87 report still broadly apply. The year 1987/88 saw much activity in LEAs and schools geared to preparation for the submission of plans for TVEI extension from 1989 or 1990 onwards. By the end of 1987/88, extension schemes had been agreed for September 1988 starts in three LEAs and negotiations were well advanced with the other five for starts in 1989.

Many schools have now moved towards a more structured curriculum pattern in years IV and V, often in anticipation of the need, within the next two or

three years, to bring their provision into line with the TVEI extension plans submitted by the LEA to the Training Agency. Most schools now insist that all pupils take a science subject up to age 16, though in only a minority does this, of necessity, constitute a balanced science programme. In a growing number of schools, pupils are obliged to choose a subject from the humanities and/or the creative arts areas, and the rationalisation of options subject offerings in forms IV and V noted last year continues apace.

The slow **loss of subjects** with a minority following has continued, often linked with adjustments to staffing levels in line with falling rolls. During 1987/88, GCSE German, religious studies, economics and rural science, and A level textile studies and German were among the deletions noted in particular schools. Some GCSE courses developed within TVEI pilot projects have also been withdrawn pending a clearer view of their future following submission to national validation procedures. Some of these decisions to rationalise are sensible; others appear to owe rather too much to the short-term expediency of adjusting the curriculum to staffing loss. The deletion of German where it is a second foreign language is particularly regrettable. On the other hand, a small number of schools, sometimes encouraged by their LEA (in one case in particular), have taken the important step of extending choice in foreign language study. Few schools, however, have made significant changes in years I-III in anticipation of the need to teach all foundation subjects (especially Welsh and a foreign language) to pupils in years I-III from 1989.

Aspects of Provision in Higher and Further Education

There continue to be wide variations in the quality of **the learning experiences** of students on similar courses in different further and higher education colleges and on different courses in the same college. Overall, between 75% and 80% of the work seen was satisfactory or better in standard, while very small proportions were on the one hand very good and, on the other, seriously inadequate. At all levels, the better quality work is characterised by teaching which is well planned, thorough and clearly focused on appropriate aims and objectives. There is variety in learning experiences, including good use of audio-visual aids and a judicious balance of activities. Assignments are appropriately matched to students' abilities and aspirations and allow them to develop creative skills. Progressively higher demands are made as they proceed through the course; their performance is systematically monitored and there is supportive and constructive response to their work aimed at securing improvement. Where provision is poorer, the work tends to lack pace and variety, there is an over-emphasis on teacher exposition and the copying of notes and too few opportunities are presented for student participation.

Although variations remain between vocational areas, periods of work experience are an increasingly common feature of courses for full-time students. **Work experience** is most profitable when related to curriculum aims and the objectives of the placement are clearly set out and understood by students and employers. In many departments students are required to complete assignments in conjunction with the work they undertake during placement. Where these assignments are suitably structured, they help students learn from the experience and provide a focus for reflecting on the activity. Work experience supports students' learning most effectively where a joint programme has been agreed between the department and the employer, where adequate time is allocated for staff to visit students on placement and where properly planned time is made available after the return from placements for students to reflect on the experience. Regrettably, not all work experience is so well-structured, effectively monitored and followed up.

Recent curriculum initiatives have prompted the adoption of **'enterprise' activities** in many departments. Many of these are modelled on a 'mini-business' and are organised so as to provide students with insights into the basic planning for, and operation of, a small production unit or provision of a service. The best schemes provide effective work simulation, with students required to work co-operatively and develop problem-solving and decision-making skills. There is usually an emphasis on sound business practice including product/service evaluation. Not all enterprises, however, are equally successful: some are poorly organised and students' activities are trivial in nature. Other 'enterprise' activities involve students in planning a substantial activity (such as an overseas visit) or project work (such as building a sports car from a kit). Some projects form a substantial part of a term's work. Where they are effectively planned as an integral element of the course, students' learning is considerably enhanced through activities which require co-operation, planning, creative thinking and working under pressure.

The further development of **integrated assignment** approaches within both craft and technician courses has proved generally beneficial, especially in integrating theory and practice, linking various aspects of a course and encouraging a problem-solving approach which requires the application of a range of skills. The success of the approach depends on the nature of the assignment and on the extent to which it provides an appropriate intellectual challenge. Some assignments require little more than information gathering skills and make few demands in terms of analysis and synthesis; others are over-ambitious in the challenges they present to students. In some courses, for example, business studies, the integration of the various contributory disciplines has sometimes been undertaken at the expense of appropriate depth of study and understanding of fundamental principles. Staff in some vocational areas have not found the planning of an effective programme of assignments an easy matter and some programmes require extensive modification.

The quality of the work depends to a large extent on the degree of planning, monitoring and evaluation that takes place. During the year there has been increasing evidence of course teams working co-operatively to plan the totality of students' learning experience and meeting regularly to evaluate the outcomes in terms of student learning and interest. Effective work in this respect, however, is restricted to a minority of courses.

Smaller colleges, especially those serving rural areas, and teacher training campuses, tend to be pleasantly set out and to have well constructed buildings. The most recently built **premises** also have attractive environments, are able to withstand heavy use and are easy to maintain. Standards elsewhere in the system continue to be indifferent, particularly in some larger colleges. A number need re-decoration, some remodelling and re-equipping in order to cater more appropriately for up-dated courses and new teaching approaches. Given modest investment in facilities such as display boards, blackout and projection screens, many classrooms could be made more attractive and stimulating. The value of displays of course materials and students' work as encouragement and guide to improved performance still tends to be underestimated. More could be done, often within existing resources, to improve the appearance of reception and circulation areas, so that colleges are presented as interesting and purposeful institutions, welcoming to students. In particular, the needs of adults attending further education classes are often insufficiently considered.

Specific grants and direct funding by central government have enabled most colleges to be reasonably well equipped with the hardware of **the new technologies**. In higher education there is increasing use of computers to support learning, especially in construction, engineering, design, technology,

science and accounting; generally, however, insufficient attention has been given to IT in business and management studies. In further education, while there has been a growth in computing courses and computing modules within courses, the enhancement of learning through the application of IT in subject areas is less widespread.

The high cost and short life of much of the latest equipment, especially in higher education, is a growing concern. There are few examples of colleges collaborating to share costly items, or of arrangements for staff and students to study off campus, using local industrial and commercial facilities. Many colleges have had difficulty in replacing or up-grading obsolescent conventional equipment in some of the traditional vocational areas.

The need to attract more adults into education and training as the number of school leavers is set to decline sharply is increasingly appreciated in the majority of colleges, but a more coordinated network of access opportunities for adult learners is needed. During 1987-88, the most successful provision for adults returning to education was in the humanities and social sciences; comparatively few preliminary courses provided access to areas such as mathematics, computing, science and engineering, which already fail to recruit adequate numbers of school leavers. Adults adjust most successfully to a study regime where account has been taken of their particular needs in planning the teaching and learning programme, and where provision is made for guidance and counselling, especially in the early stages. Failure to adjust teaching approaches and provide the necessary support accounts, in part at least, for high wastage rates in sectors of HE. It is a matter of considerable concern that many of those who embark upon courses in computing and engineering and business and management studies fail to complete them successfully.

Colleges, generally, have sought to be **responsive to the changing needs of industry.** Involvement in Local Collaborative Projects and the Responsive College Programme has improved the perceptions of some colleges regarding the needs of certain employment sectors and there has been an increase in the provision of courses of the PICKUP type. However, the response varies considerably within and between colleges. A lack of coordination across such initiatives as REPLAN, RESTART and PICKUP is also evident and the potential of open learning approaches has not been fully explored.

The well-established practice of seeking to stimulate growth through the addition of new courses persists in some colleges and insufficient emphasis is given to the review of existing courses. Some are allowed to continue from year to year with low enrolments and frequently neighbouring colleges sustain identical courses which attract few students. The present range in the staff-student ratios of colleges from 1:5 to 1:12 approximately also suggests that parts of the system are inefficient.

Inefficient practices, which are often also educationally ineffective, deny some colleges the resources they need to adapt courses and methods of delivery to meet present and emerging needs. The perpetuation of outdated and poorly supported courses is one of the major factors contributing to a generally low level of responsiveness. Others include weaknesses in targeting staff professional development and in links with employers and responsiveness to their training needs. The high level of unemployment of recent years contributed to a sharp decline in part-time provision and a corresponding increase in enrolments on full-time courses, but colleges have shown few signs in the past year of responding to expanding employment opportunities by re-introducing part-time day and evening courses, despite the more generous weighting factors employed by the Wales Advisory Body in respect of part-time provision in higher education.

In other aspects of provision significant progress has been made towards improving efficiency and effectiveness, especially in HE, where some of the larger institutions have introduced systems to monitor the management of courses and the performance of students. All centres offering courses validated by the CNAA and BTEC are required to submit them to periodic reviews. The approach employed promises to develop into a useful tool for improving standards on a broad front. **Management information systems and performance indicators** are being developed in most colleges, but in 1987-88 few senior management teams had all the data they needed to make decisions that would lead to more efficient and effective use of resources.

LEA youth and adult education continues to be provided largely in generalist centres, mainly on an evening only basis. These centres are not always well-located in relation to the communities they are intended to serve and some needy neighbourhoods are uncatered for. Developments designed to meet community needs more adequately include the increased use of satellite bases for classes and youth work, joint ventures between the adult education service and primary schools or community centres, activities for family groups and district as opposed to centre based activities for young people.

In general, there is little change in the range of courses offered within **adult education programmes** - domestic and practical subjects, art, physical education and languages constitute more than 85% of courses. There are, however, examples of successful attempts to adopt innovatory and flexible approaches within the curriculum, identify and respond to community needs and target specific groups. Thus there is a growth in the number of courses on the use of new technology, health, Welsh and English as second languages, inter-personal skills, and an increased emphasis on making provision for the physically and mentally handicapped. Innovatory provision sometimes results from dialogue with potential target groups but generally, marketing, publicity and guidance are insufficiently personal to overcome the resistance of those who are unattracted to continuing education, but who may have most to gain from such provision. Several authorities have endeavoured to respond positively to the needs of adults seeking to improve their basic education but elsewhere provision remains poor. In the better resourced areas student numbers are increasing, but nowhere does the current level of provision come near to catering fully for the number of adults in need of help.

Some of the teaching in adult education is of high quality and most of it is of satisfactory standard, though there is often insufficient variety in the experiences provided to fully stimulate adult learning and extend student skills. In the best practice there is a high level of student participation, judicious use of a variety of teaching aids, opportunities for experiences beyond the class base and the character and pace of work is adapted to meet the varying needs within the class.

The range of courses for **teaching Welsh to adults** has increased, though some areas are better served with regard to access to higher level work. Useful initiatives have been launched to reach new clients in the world of commerce and some provision appropriately focuses on the needs of non-Welsh-speaking parents whose children attend Welsh-medium schools. A shortage of suitably qualified tutors has become evident in at least two authorities as a result of the general increase in demand. In more than two-thirds of classes visited, teaching and learning experiences were satisfactory, though only in a small proportion of classes at the best-equipped centres is there sufficient variety of provision to enable some differentiated activity to occur simultaneously to meet group and individual needs. Work in many intensive and advanced courses is stimulating and of a high standard.

The emphasis in **youth work** is still heavily on the leisure and recreation aspects but an increasing number of districts and centres are concerned to provide a balanced educational curriculum responsive to local needs and circumstances. More time is being devoted, for example, to the discussion of social issues, to health matters, to the needs of girls and to widening members' horizons. There is evidence of increasing good practice in youth provision but in many cases the lack of carefully planned, stimulating and challenging programmes has contributed to the reduction in the numbers and ages of those attracted to centres.

There is a widening gap between the generally acceptable quality of the environment in buildings used primarily for youth and adult education and the less satisfactory conditions for learning in youth clubs and adult centres which operate part-time in premises created for other phases of education. Many community buildings used as satellites are more suitable for certain adult classes, not least because they are more accessible to some of the students it is particularly hoped to attract. For the most part youth and adult education continues to rely on learning resources which have not kept pace with curricular and technological developments.

The recruitment of suitable part-time staff continues to be a problem in both youth and adult education and one which no LEA has addressed systematically. One LEA has made new full-time appointments to develop adult basic education during both the day and the evening. With the exception of one LEA, job specifications of part and full-time staff are unhelpfully sketchy and there is consequently an uneven appreciation of the learning which youth and adult education can promote. The central steer, co-ordination and professional supervision essential to these dispersed services is substantially missing in most LEAs.

Collaboration between youth and adult provision and other aspects of education within LEAs and between LEA provision and other providers is unevenly developed. Joint planning with university departments, the WEA, community agencies, schools and colleges is increasing in adult education, but in many colleges, there are unnecessary distinctions between courses preparing students for employment and others relating to less vocationally orientated activities. In general, the relationship between youth and school provision remains an uneasy one. The development of adult and youth education within an integrated, post-school community education policy in four LEAs shows promise for greater efficiency and effectiveness. Within one LEA close working between full-time adult, youth and community workers in each area, the establishment of area advisory committees and the allocation of amalgamated resources to them has enhanced the quality of the provision. However, in the majority of cases, LEA policy statements are too general to be helpful to centres and the setting of objectives at an institutional level relies too heavily on the initiative of individual members of staff. The reluctance of LEAs and centres to order priorities frequently results in too much being attempted within limited resources. Special funding has provided opportunities for experimentation, but, to often, such provision including that which is designed to address special needs, is short term only. Much work needs to be done in identifying needs, negotiating curricula with students and adjusting modes of delivery to particular clients.

Aspects of Provision in Initial Teacher Training

Initial teacher training in Wales outside the university sector is provided by five maintained institutions and one voluntary college. Newly accredited courses have been introduced in all but two.

The vast majority of the teaching sessions observed by HMI during 1987-88 provided learning experiences for students which, as a whole, were satisfactory or better. Rather more than half were assessed to be of good quality in their provision of teaching and learning experiences; of these, a small proportion were considered in every respect excellent.

On the basis of the provision and use of **accommodation and resources**, a small minority of the sessions were judged to be less than satisfactory. In all institutions, however, there has been refurbishment of premises and helpful re-location of subjects in more suitable accommodation. In a few cases the scale of change has been dramatic. Four have model classrooms equipped to a generally good standard where primary school pupils can be brought for demonstration lessons and primary workshop sessions held. This is an impressive step forward in all the colleges concerned, demonstrating the increased emphasis in the new courses on relevance to primary education. One of the most immediately apparent changes has been brought about by **the use of display**. In circulation areas and most classrooms, the attractive displays of work by primary pupils do much to establish an appropriate ethos for the work of students. In some cases the quality of the display and mounting could be better and in virtually all more pertinent use could be made of this material in the course of teaching sessions, but everywhere the partnership with schools is warmly and purposefully evoked and students are gaining an appreciation of an important dimension of primary practice.

There has been substantial improvement in facilities to support **computer-aided learning**. All students have computer experience modules, usually of brief duration, but access to the equipment for follow-up work in their own time is restricted in most cases. Subject departments have their own computers or can readily gain access to them by arrangement and good examples of CAL occur in a range of contexts in the various institutions, including for example, geographical and scientific studies, control technology in art, design and craft, and some aspects of language work. On the whole, however, the use of the computer to support learning remains limited. A considerable number of tutors need training and practice in computer use.

Students' motivation is everywhere good and the widespread and substantial change in approaches that has accompanied implementation of the new courses, promoting their involvement in the learning process, has in most cases proved successful in introducing them to study at a higher education level. Certain task-orientated courses in particular, resembling in their methodology good practice in primary schools, have provided students with rigorous academic challenges and opportunities to gain a thorough understanding of important concepts. Much of the **professional or pedagogic work** in the new BEd courses is presented in the form of 'workshop' sessions, often linked to the observation of primary pupils. Although some are tentative in the nature of the challenges they set, do not probe sufficiently the direct experiences of students or focus clearly on the work of children and key issues such as the organisation and management of classes and learning difficulties, they generally have the considerable strengths of relevance and immediacy. The best practice in workshops is very good; that which is less effective or inconsistent in quality is usually associated with uncertainty on the part of some tutors about the curriculum and organisation of primary schools and the normal range of response of primary pupils.

The change in **course structures** is of far-reaching significance. It has involved many staff in protracted and meticulous planning of revised patterns of work and programmes of study, especially for the BEd courses which, with one exception, have become 'concurrent' in organisation, that is, having school-experience/teaching practice alongside academic study in each year of

the course. The extension of subject study to occupy 50% of the course, and of school experience/teaching practice, has made the option of a three-year course to a BEd 'ordinary' degree no longer feasible. All students now embark upon a four-year honours degree course. The changes that have been introduced ensure that students in all institutions have a measure of common experience, but there is still considerable scope for individual institutions to design courses which are different, particularly in the range of main subject studies they offer. In two institutions which provide Welsh medium courses there are particularly wide ranges of choice for students. At another institution most of the major studies are areas composed of two or three traditional subject disciplines. The limited choice of one from three such broad areas in a fourth institution is linked with a set of 'complementary studies' which together provide good coverage of the primary curriculum and subsequently, in conjunction with curriculum studies, substantial allocations of time for mathematics, language and science for all students.

Carefully planned as the new courses are, there remain some areas of doubt, for example, in relation to the coherence of studies where two or three traditional disciplines are combined into an area. The amount of tutor contact time in the compulsory mathematics and language courses, and the amount of time generally allocated to assessment and record keeping and to knowledge about 'the world of work' are further aspects which would benefit from review as the courses are developed.

School experience/teaching practice commonly amounts to some 15% of the new BEd courses. In most cases, a substantial proportion of the activity from the first term is associated with school visits and/or the visit of primary pupils to the training institution's model classroom. The organisation of this intermittent school experience normally involves teams of tutors, the preparation and briefing of students and subsequent analysis of their observations of the schools and pupils. Although some of this experience is less effectively exploited than it might be, students generally benefit substantially from it, gaining in breadth of knowledge of primary education, of the day to day routines of schools, and of practical problems and opportunities in the classroom.

A considerable amount of **professional development of tutors** has accompanied this shift of emphasis in the organisation of courses. More has stemmed from the requirement that tutors gain recent and relevant experience of the phase of education for which they are preparing students, but there are substantial numbers of tutors who left teaching careers, usually in secondary schools, many years ago and who still have little or no experience of primary phase work. In most institutions there have been significant improvements in attitudes towards and engagement in other kinds of staff development within the last year. Policies for research have been extended and there has been much positive thought and action to promote in-service provision in response to the LEA Training Grants Scheme, though in most cases with only modest success. Although there are still gaps in the permanent staffing in individual cases, early years specialists in particular being in short supply, on the whole the present teacher training staffs are better balanced and in various ways better equipped to address the needs of students and impending developments in the education system than were their counterparts of a few years ago.

There has been a further striking increase in emphasis upon the marketing of courses but it still proved particularly difficult to recruit BEd students at two institutions. Between 74% and 80% of students come from homes in Wales, in many cases within the county in which the institution is situated. On average, 75% are women. The average A level points scores of intakes in 1987-

88 ranged from 4.4 to 5.9. All institutions admit under the 'exceptional entry' conditions a number of mature students who do not have conventional qualifications, the proportion in individual institutions varying considerably from 15% to 53%. Although mature students have a great deal to contribute to courses by virtue of their experience of the world, of employment and often of bringing up their own families, in many cases, their lack of recent contact with academic work is an initial handicap.

There is considerable disparity in the academic backgrounds of students in classes in most main subjects, especially where a large proportion are mature exceptional entrants, and few studying mathematics and science subjects are well-qualified on entry. The ability of institutions to recruit students in the full range of courses they currently offer and to modify programmes of study to meet the requirements of the National Curriculum will be vital elements of the further development of initial teacher training in Wales in the year ahead.

INSET

The LEA Training Grants Scheme was introduced in April 1987 and its effects upon the system were observed through 1987-88. In the initial stages LEAs, schools and colleges were preoccupied with setting up systems to implement the scheme. LEAs appointed INSET coordinators, reinforced or created groupings of schools to facilitate the identification of INSET needs and the delivery of training; coordinators were also appointed at school and 'school cluster' level; advisory services took on additional tasks in relation to the oversight of the scheme and the provision of INSET. A small number of training events occurred in the summer term 1987 but the full impact of the scheme began to be felt at the beginning of the new academic year.

The implementation of the LEATGS revealed a number of strengths including, after a start which was slow and somewhat insecure in a few authorities, the development of generally sound administrative structures and, perhaps most impressively, the positive attitudes towards professional development of the great majority of teachers. Certain weaknesses were also observed which tended to reduce the effectiveness of the scheme in improving classroom practice. Many providers gave insufficient advance information about events so that teachers were under-prepared for the training offered. Where reading lists were distributed beforehand and teachers requested to bring relevant samples of pupils' work with them, the experiences were generally more effective. Similarly, where providers included in the training package encouragement, materials and a suggested methodology to assist those who attended an event to pass on what they had learned, there was usually successful dissemination of the benefits of the experience. The majority of schools and colleges have established as part of their INSET policy the requirement that teachers who attend training sessions report back to the staff as a whole or to some department or section of it. However, this important aspect of training is infrequently carried through in a sustained and vigorous way and as a result the beneficial effects of training experiences of good quality tend to be confined to individual classrooms. There is still much to be done by headteachers and heads of department to facilitate and monitor follow-up to INSET.

Most of the INSET events planned by LEAs and schools or clusters were of short duration, from a single session to two days. Well-planned and delivered as a good majority of those observed by HMI were, there was some doubt about their effectiveness in promoting improved learning in the classroom. There was evidence in classroom practice of the success of another mode of delivery applied to events varying in length from five to 20 days which were divided

into brief modules, normally of one or two days, staggered over a term or longer. In the period between modules, teachers undertook assignments and tried out materials associated with the course, sustaining its impact in the relevant context of the classroom.

There was a reduction in investment by authorities in long, award-bearing courses. In response, higher education providers, both public sector and university, were actively negotiating to supply short courses tailored to meet the needs identified by LEAs, schools and clusters, and some were seeking to re-structure and supplement their existing longer courses to form arrays of modules in a system of credit accumulation leading to awards at various levels.

The Training Grants Scheme and PICKUP arrangements have led to a significant increase in **INSET opportunities for staff in further education.** This has included in-house staff development activities related to themes such as information technology, student-centred learning and supported self-study, attendance at national courses and conferences, and secondments to industry. Initially INSET activities were not associated with systematic policies linked to appraisal of individual and institutional need. Most colleges have now appointed a staff development officer and a staff development committee to develop and support policies based on identified needs. Some colleges are including part-time staff in their strategies, but meeting these particular needs continues to be a problem.

Most authorities have obtained funding through various grants to enable non-teaching staff (administrative, technician and library) to attend training courses, usually in relation to the use of new technology; in some authorities such provision has been limited. National courses have been organised for technicians from construction and engineering departments and these are to be extended to all technician staff.

In youth and adult education there has been an emphasis on training for part-time youth workers; provision for full-time officers or advisers and heads of centre, for part-time staff in managerial roles and for tutors of adults remains under-developed. The continued absence of collaboration between youth and adult education and other phases means that opportunities are missed to cater together for staff with common needs or similar responsibilities.

The Training Grants Scheme requires that LEAs evaluate the INSET provided. This is undertaken reasonably systematically, but the evaluation rarely penetrates beyond the response to it of those who attend an INSET event, usually on a standard form. The forms are subsequently analysed and discussed by providers and administrators, but they do not readily allow conclusions to be drawn about the effectiveness of the experience as a means of improving classroom practice.

During 1987-88, the most successful targeting of INSET, preparation for it and subsequently dissemination and evaluation tended to be seen in those few institutions where there were already in place schemes of school/college/departmental evaluation and some form of teacher appraisal. However, from a 1986-87 baseline, which was generally low, there has been a very considerable advance in the scale and quality of INSET provision and, if the impact in terms of improved classroom effectiveness is still uneven, the LEATGS has everywhere established a sound foundation upon which further development may be securely based.

Concluding Remarks

During 1987-88 there were indications of increasing responsiveness in colleges of further and higher education to the changing needs of students and employers. Many have successfully mounted new courses and attracted a wider clientele, but others have been hindered by their reluctance to rationalise provision to release resources for new developments. Many colleges have improved their marketing strategies and access opportunities to meet the recruitment problems that will result from the significant drop in the number of school leavers; however, much remains to be done in this respect. Some progress has been made in developing management information systems to increase the efficiency of colleges, but the systematic use of performance indicators to evaluate provision is not widespread.

As they addressed the implementation of the National Curriculum, LEAs and schools needed to focus upon a number of key tasks in areas where provision and practice were still very varied:

i. **developing assessment skills** - particularly at primary level, where approaches are often inconsistent. The main aim of assessment should be the continuous monitoring of pupils' day-to-day work in order to improve the match between pupils and the tasks set and achieve both the NC attainment targets and the broader aims of the curriculum;

ii. **developing skills in the core subject** - of considerable numbers of teachers in primary schools and in mathematics and English departments in secondary schools who did not specialise in the core subjects during their initial training. Substantial professional development will be needed in these circumstances so that teaching skills are better matched to the NC needs of pupils;

iii. **developing Welsh language teaching skills** - especially at primary level. The scale of need will vary greatly from LEA to LEA, but most will need to exploit the sources of Welsh language proficiency among their teaching staffs and the teaching materials now available, and seek the cooperation of other LEAs, in order to equip schools with the means of teaching NC Welsh effectively.

The coordination of the various initiatives at school and LEA level and exploring the mutual benefits of joint planning with initial training institutions where NC developments are also taking place, are further tasks. None will be easily or quickly concluded. However, the education service has gathered strength from its often vigorous response to recent changes such as the introduction of teachers' new conditions of service, LEATGS, ESG and TVEI, and the attitude of staffs in schools and colleges to professional development has shown striking improvement. The indications are that the system is well placed to achieve most of its goals.

FILE MM

cc PC

10 DOWNING STREET

LONDON SW1A 2AA

From the Private Secretary

4 April 1989

Dear Tom,

NATIONAL CURRICULUM GEOGRAPHY WORKING GROUP

The Prime Minister was grateful for your Secretary of State's minute of 23 March and the attachments. She is content to accept your Secretary of State's proposals.

I am copying this letter to Stephen Williams (Welsh Office), Philip Mawer (Home Office), Clive Norris (Department of Employment), Neil Thornton (Department of Trade and Industry), Roger Bright (Department of the Environment), David Crawley (Scottish Office), Stephen Leach (Northern Ireland Office) and to Trevor Woolley (Cabinet Office).

Yours,
Paul

PAUL GRAY

Tom Jeffery, Esq.,
Department of Education and Science

KC

PRIME MINISTER

EDUCATION GARDEN PARTY

Mr. Baker's minute attached invites you to a Garden Party being held at Buckingham Palace on Tuesday 25 July for teachers in State schools and F.E. colleges. I have clarified a number of points which are not entirely clear from the minute.

(i) Although Buckingham Palace is the venue, Mr. Baker is the host and you, the Princess Royal and the Duke of Kent are being invited to look in at various times. There would thus be no accusation that Ministers were taking over a Royal Garden Party.

(ii) People are being invited from across the political spectrum, including Mr. Kinnock and Mr. Straw, though whether they will turn up at Mr. Baker's function is another question.

(iii) The Princess Royal will arrive at about 1600 hours and leave at about 1700 hours and so there is no question of retiring to the Royal enclosure (which would be pointless if the object of the exercise is for you to meet teachers).

(iv) In effect, the invitation is for a look-in at a very large reception en plein air. You would go round and talk to as many people as possible in 45 minutes to an hour. There would be no attempt to line people up for you.

(v) Dress will be lounge suits, etc.

There is space in the diary to accommodate this and it does have some attractions. Although you have been to a number of private schools you have not been able to go to many State schools, in part because a fair reception could not be guaranteed. But at Buckingham Palace it is likely that teachers would be on their best behaviour. This would be a chance to talk to quite a number of them under favourable conditions when the Government has a good story to tell.

Against this, you are due to go to The Queen's Garden Party the next day. I have established that 'eyebrows would be raised' if you dropped out of that in order to attend Mr. Baker's function. It is not, therefore, a case of one or the other but of both. While two Garden Parties in two days may look odd, it is probably better to see Mr. Baker's event as something completely different to be judged on its merits.

Is this something you would like to do?

Yes – after Questions. But would that clash with the Princess Royal? But I should only be in the background.

AT

MT

ANDREW TURNBULL

4 April 1989

SLHBER

PRIME MINISTER

I thought I should let you know that a special Garden Party is being organised this year for teachers in maintained schools and FE colleges in the United Kingdom. Education is being especially honoured in that Her Majesty and Queen has agreed to make available to us facilities in the gardens at Buckingham Palace: the date arranged is the afternoon of 25 July. Their Royal Highnesses the Princess Royal and the Duke of Kent will be present.

1989 will be a notable year for the state education service. There are two important anniversaries: the setting up of Privy Council's Committee on Education on 10 April 1839, and the appointment of the first HM Inspectors of Schools on 9 December 1839. These events are being commemorated in various ways, by special stamps and other public events including exhibitions and lectures. But a public celebration bringing together a large number of those directly concerned with education, in the presence of members of the Royal Family, will clearly be the crowning event.

I am inviting the territorial Secretaries of State and their Education Ministers together with political figures from all parties, representatives of national organisations and Local Education Authorities and - the main group of guests - a large number of school and further education teachers. Total attendance will be in the region of 4000.

I know too well the pressures on your schedule but it would give me and everyone else concerned the greatest pleasure if you could spare perhaps three quarters of an hour or so after question time on the day to join us at the Palace. Perhaps more to the point, it would provide the strongest possible signal of the Government's recognition and appreciation of the excellent work many good teachers are doing to implement our reforms and improve the quality of education.

K.B.

KB

3 April 1989

DEPARTMENT OF EDUCATION AND SCIENCE

PRIME MINISTER

NATIONAL CURRICULUM: GEOGRAPHY WORKING GROUP

Kenneth Baker's minute and attachments (Flag A) seeks your agreement to arrangements for the Geography Working Group, covering:

- the candidates for Chairman and Vice-Chairman;
- the proposed terms of reference and supplementary guidance;

On candidates, Mr. Baker proposes Sir Leslie Fielding, or failing him, Professor Colin Renfrew as Chairman; and Professor David Thomas as Vice-Chairman.

Brian Griffiths' note at Flag B sees no reason to object to Mr. Baker's proposals and recommends you to accept them.

Content to endorse Mr. Baker's proposals?

Rely on X - Yes

mb

PAUL GRAY

3 April 1989

SLHBEQ

PRIME MINISTER

3 April 1989

NATIONAL CURRICULUM: GEOGRAPHY WORKING GROUP

This is the least contentious of any proposal for a national curriculum working group. Geography seems to contain few of the problems found in English, Maths or Science. Both its terms of reference and supplementary guidance to the Chairman of the Working Group are straightforward and deserve to be accepted.

As far as the Chairman is concerned, I recently met Sir Leslie Fielding and was impressed with his grasp of the subjects we discussed and his ability to communicate his ideas. He is considered a very effective Vice-Chancellor at Sussex University and will undoutedly produce a competent report - and on time. I cannot think of any objections to either his being the Chairman or the suggestion of Professor David Thomas as Vice Chairman.

Recommendation

Accept Kenneth Baker's proposals.

Brian Griffiths

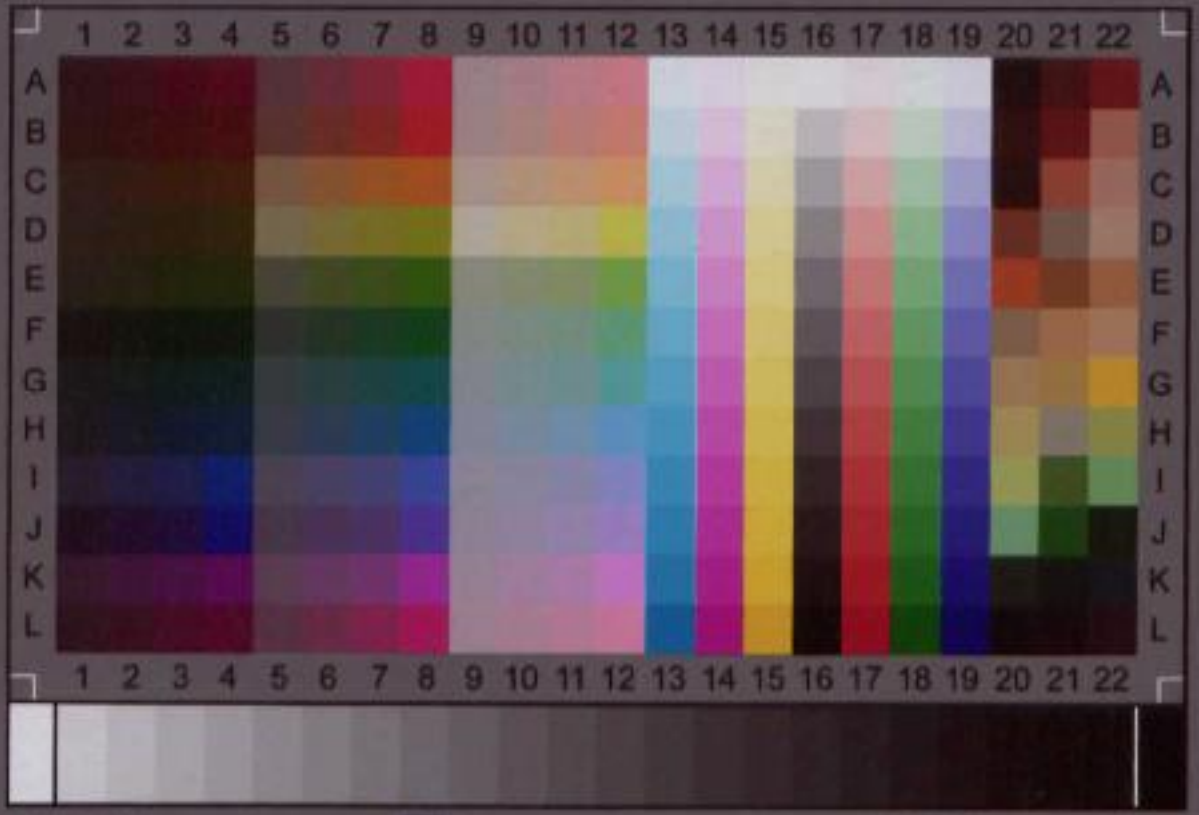
BRIAN GRIFFITHS

PART 20 ends:-

PG to BG 23.3.89

PART 21 begins:-

BG to PM 3.4.89



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