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SUBJECT SPECIALISTS - PRIMARY SCHOOLS

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1.0 Introduction

This paper attempts to give an insight into the nature of subject specialism in primary schools; the way in which the concept has developed over time; the ways in which it is understood and interpreted by key players and the educational arguments for and against its adoption.

2.0 The Origins and Development of the Concept

The UK primary school has its roots in the nineteenth century elementary school tradition. This was a system of education designed 'for the masses', i.e. the children of the working-class and the poor. Its curriculum was a classic 'basics' curriculum, primarily concerned with reading, writing and ciphering, plus good work habits and moral education. Rote learning of inert facts was common, under the tutelage of one 'proper' teacher for the whole class but often with apprentice or pupil teachers to help. Classes were very large by current standards. Its purpose was utilitarian, and 'payment by results' ensured that, 'If it was not cheap, it would be effective; if it was not effective it would be cheap' (Lowe, 1863). Alexander (1984: 13) identifies two core elements of primary education that have clear roots in the elementary school tradition, *"...the persistence of class teaching and the view of literacy and numeracy as the 'basic' or core elements of the curriculum."* He also notes the Victorian utility criterion as one that has increasingly become a feature of 1980s education policy (p14). Alexander locates the perceived post-Plowden resistance of primary schools, and teachers therein, to a subject -specialist teacher / subject-based curriculum, as deriving from a conscious rejection of negative aspects of the elementary school curriculum, where 'knowledge = subjects = facts = indoctrination'. He states that, *"In rejecting 'knowledge'... primary ideology reacts... against the fact-inculcation of three RS elementary education, but fails to discriminate between the latter's version of knowledge and that of academic subjects, whose origins and purposes in elite minority education were very different"* (p64).

This is a key issue in the debates that follow about the nature of the primary curriculum and primary teaching pre the Education Reform Act (ERA, 1988), the subsequent establishment of a National

Curriculum and the argued need for subject- specialists in primary schools.

2.1 Precipitating Factors

From 1931 until the late 1970s primary education was freed from direct political or past educational prescriptions that required adherence to the 3Rs or the traditional subject oriented curriculum, apart that is from the eleven plus examination. It has been argued that it was during these years that the ideology (though not necessarily practice) of child-centredness became widely established. This 'growing trend' was itself officially recognised and endorsed in the Plowden Report (CACE, 1967). Lady Plowden wrote in the forward of Blackie's book (1967:iii-iv), *Inside the Primary School*,

"... this is the only stage in the whole of education when the child is educated as a whole person, and his many interests can be encouraged. Formal examinations are far away, there is no specialisation in subjects and the child can range freely over the whole field of knowledge within his comprehension. There is a greater emphasis on the child learning, rather than on the child being taught. One is an active process while the other may well be passive..."

The class teacher system was supported because it addressed the need of teachers to establish trusting and respectful relationships with their pupils, to get to know them as people in order to render coercion and punishment, marks and rewards unnecessary (Blackie, 1967:37). While encouraging group and individual work, Plowden acknowledged the need for class teaching, and included sections on subjects in the report. Though claiming an undifferentiated curriculum in practice, and flexible timetabling, there are elements of a subject-based primary curriculum within the report, in addition to its widely recognised focus on individual needs. Despite the report's claim of a 'growing trend', estimates suggest only a small percentage of schools could usefully be described as child-centred (Bennett, 1976 - 17%; HMI, 1987 - 22%). Plowden's 'tide of change' failed to engulf primary schools.

The Black Papers (1969-75) took a different view, characterising English education as 'libertarian'. Slogans such as, 'back to basics', 'preservation of standards', and a stress on the importance of structure were used to attack notions of freedom and egalitarianism which were cited as causes of student unrest and many social ills. The Black Papers, through media coverage, brought such views to the attention of both government and the general public, serving both to create panic and influence opinion (CCCS, 1981).

Close on the heels of the Black Papers came the William Tyndale Affair (1975-76). The events surrounding William Tyndale school

appeared to have a significant effect on public knowledge and perceptions of primary education, and helped to reinforce political demands for curriculum re-examination and change. The school provided a well-publicised illustration of a 'poor' state of education, which the Black Papers argued to be typical, and served to confirm the characterisation of it as unstructured, progressive, and heavily child-centred.

The publication of Bennett's (1976) book, *Teaching Styles and Pupil Progress*, added further fuel to the William Tyndale and Black Paper fire. Bennett's analysis (1976:79) resulted in the claim that, *"The effect of teaching style is statistically and educationally significant in all attainment areas tested."* (p79)

Bennett's work was an educational refutation of the 'informal' methods that had already been publicly condemned in the Black Papers and media coverage of the William Tyndale Affair. It fuelled the atmosphere of questioning and concern directed at primary schools, despite a re-analysis of Bennett's data that produced quite different results (Aitken et al, 1981).

The ORACLE study, which researched what actually happened in primary schools between 1975-80, found that,

"...the kinds of practice endorsed in the Plowden Report were only partially implemented." (Galton 1987:81)

and that,

"... many of the prescriptions set out in the Plowden Report have yet to be adequately tested in practice... Whole class teaching was still quite widely used for all subjects except reading (citing Bealing 1992)... more than three quarters of all work was teacher directed...and out of 25 hours of teaching over 15 were devoted to academic subjects including number work, English and reading." (Galton 1987:83)

The House of Commons Select Committee on Education (1986: para 14.75) also confirmed that there had been little change. This was not the egalitarian, freedom loving, unstructured and progressive primary education of which the Black Papers complained, nor did it reflect the excesses of William Tyndale. Nevertheless, the 'Great Debate' followed, laying the foundations for 'a more decisive lead from the centre' (Kirk, 1986:5).

The 1977 'Education in Schools' Green Paper began the process of increased centralised control by asking LEAs to report 'what was happening in the schools' regarding the curriculum (DES). In 1978 HMI published an influential survey of Primary Education in England which directly addressed subject-specialist teaching (see below). In 1980-81 the DES published three consecutive papers. All emphasised the need for structure and progression throughout the primary and secondary school curriculum and stated that the primary curriculum should consist of English, mathematics, science, RE, PE, history, geography and the expressive arts. This 'guidance'

for LEAs provided the first statement by government of a national curriculum for schools. This was later superseded by, The Organisation and Content of the 5-16 Curriculum (1984), The Curriculum 5-16; Curriculum Matters 2 (HMI 1985), and Better Schools (1985). July 1987 marked the culmination of this intense government activity with the Secretary of State's legislative proposals, The National Curriculum 5-16. Even at this early stage Armitage (1987:23) and others foresaw the current debate about subject specialists in primary schools.

"It is naive to think that a subject-centred curriculum framework... does not entail a specific way in which the curriculum will be organised and delivered."

2.2 The Emergence of Subject Specialism as a Theme

When the Plowden Report discussed the role of subject co-ordinators in primary schools it was mainly within the context of advice and support for class teachers. Subject-specialist teaching remained a largely underlying, unexpressed issue with regard to primary-age children in state schools, and in the literature, until the publication of the Primary Survey (HMI, 1978). This was the first official endorsement of more subject-specialist teaching in primary schools, reiterated frequently in subsequent DES, HMI and Select Committee Reports. It represented a substantial challenge to the orthodoxy of generalist class-teaching. It was followed logically by centrally initiated controls over teacher education with the establishment of the Council for the Accreditation of Teacher Education (CATE) in the mid-1980s, and the requirement for trainee primary teachers to have or to acquire a subject specialism for teaching in primary schools.

The Primary Survey (HMI, 1978) recorded 'the best of both worlds', in that it emphasised both the benefits of subject-specialist teaching, particularly in the later years of primary education, and those of undifferentiated cross-curriculum study.

Paragraph 8.41 extols the virtues of the class teacher system (italics used as in original text).

"...the teacher can get to know the children well and to know their strengths and weaknesses; the one teacher concerned can readily adjust the daily programme to suit special circumstances; it is simpler for one teacher than for a group of teachers to ensure that the various parts of the curriculum are coordinated and also to reinforce work done in one part of the curriculum with work done in another.... potentially, and often in practice, these are important advantages and care should be taken to retain and use them."

This is immediately followed by,

"They are not overriding advantages in all cases. When a teacher is unable to deal satisfactorily with an important aspect of the

curriculum, other ways of making this provision have to be found. If a teacher is only a little unsure, advice and guidance from a specialist, probably another member of staff, may be enough. In other cases, more often with older children than with younger children and much more often in junior than in infant schools, it may be necessary for the specialist teacher to teach either the whole class or a group of children for particular topics. In some cases, specialists may have to take full responsibility for the teaching of a class or classes other than their own in an area of the curriculum such as music, where expertise is short; perhaps more subjects, in particular science, should be added to the list, at least for older children." (para 8.42)

Paragraph 8.43 then warns of the dangers of specialist teaching (italics used as in original text).

".. the work done by a specialist may be too isolated from the rest of the children's programme... The teacher responsible for the class may be the best placed to coordinate the whole programme of the class. Care needs to be taken to ensure that the programme of the specialist's own class is not too fragmented, and is arranged to utilise the complementary strengths of other teachers. ... If specialist teaching is taken too far, the timetable becomes over-complex and does not allow variations in the arrangements which circumstances may require from time to time."

HMI's 1978 (somewhat confusing) endorsement of greater subject-specialist teaching is overtly present in subsequent prescriptions for teacher education. CATE's Circular 3/84 criteria included a minimum of 50% specialist subject study, which would subsequently be regarded as the teacher's curriculum specialism. This, and subsequent changes to ITE, effectively narrowed the breadth of curriculum coverage for intending primary teachers leading to all post-1992 graduates being, in theory at least, predominantly subject-specialists rather than generalist class-teachers able to cover the full primary curriculum.

The Primary Survey formally marked the beginning of a growing trend to speak of, research into, and offer guidance for, the conception and delivery of the primary curriculum in terms of traditional subject categories, organised by and around subject-specialists, and potentially delivered through subject-specialist teaching.

The House of Commons Select Committee (1986: para 14.76) offered the view that,

"It is advantageous to maintain the class/teacher system as far as possible; but it is unreasonable to expect one teacher to cope unsupported with the depth and width of the modern curriculum."

Paragraph 14.77 outlined options of advice and support, or another teacher taking over the class; paragraph 14.78 said that curriculum co-ordinators could perform these roles and paragraph 14.79

suggested that

"Virtually every primary school teacher should act as a co-ordinator in some aspect of primary school work."

However, HMIs 1978 ambivalence is repeated in paragraph 14.80 which states,

"We accept unreservedly that primary schools should not adopt a practice whereby each aspect of the curriculum is taught by a teacher specialising only in the teaching of that subject."

Pre-ERA research clearly demonstrated that a gap existed between how the primary curriculum was perceived and how it was actually practised. Nevertheless, such findings failed to counter the increasing demand for more subject-specialist teaching in primary schools. The House of Commons Select Committee (1986: para 14.81) asserted that most teachers can teach most of the curriculum to most of their pupils. Now it appears to be assumed that they cannot. The National Curriculum and arguments about its delivery have intervened.

2.3 The National Curriculum (ERA 1988)

The ERA established a National Curriculum for 5 to 16 years olds in all state funded schools, with the clear indication of an increasingly subject-based curriculum and subject-specialist teaching role for teachers in primary schools. Teachers were placed under a statutory obligation to teach three core subjects, plus six foundation subjects and RE.

In his critique of the White Paper, *Teaching Quality*, Lacey (1985) suggested that teaching is not an enterprise likely to benefit from greater specialisation. He argued it would result in more rules, more impersonality, and extension of authority hierarchies - in essence, it would become more bureaucratic, and antithetical to many of the recognised beneficial features of good primary practice. He concluded,

"The closer one views education as a form of instruction in which unchallengeable packages of knowledge are handed on to future generations, the more appropriate the bureaucratic form of organisation will appear for schools. The more education appears to be a process of personal development and discovery and a method of assessing evidence in order to make judgements, the more appropriate the professional and communal forms of organisation will be."(p65-69)

Ball (1995:38) argues that the ERA was a clear demonstration of political intervention to 'deconstruct the comprehensive, modernist curriculum' and to replace it with 'a political but depoliticized, authoritative curriculum of tradition', i.e. the curriculum of the dead (p46). Alexander's examination of the diverse values and purposes that underlie notions of 'good primary practice' leads him to argue

that,

"The alliance of political and pragmatic calculations... yields a somewhat minimalist version of good practice; also a dangerous one, since the only partly explicated values can then be imposed on child, teacher and parent alike." (in Murphy et al, 1995: 68)

As Pollard (1996:133) notes, all curricula 'reflects the values and priorities of those who construct it.'

Analyses such as these illustrate fundamental conflicts about the nature of education and school knowledge. Such conflicts are evidenced, at the level of practice, in polarised views of primary education as either subject-centred or child-centred, but are largely missing from current debate about changing primary teacher roles and changing primary curricula, both within and outside the profession, but especially from teacher education courses. The result is that central prescriptions remain largely unchallenged. However, before leaving the arena of controversy, and without minimising the fundamental conflicts of value and educational purposes involved, it should be noted that while the National Curriculum is a subject-based curriculum, it does not have to be 'dead'. Much that can and should be done depends on how and what is delivered and for what purpose. Subjects have never been far away (clearly present in Plowden and in subsequent research into practice) but subjects of themselves do not demand a transmissive, inert, passive approach to the curriculum as delivered by subject-specialist or generalist teachers (Alexander, 1984:14;64). The key issue is how to deliver a subject-based National Curriculum. Should it be integrated, with subjects covered at the planning stage, but delivered through topics? Should subjects be delivered separately, possibly timetabled across the day and week? Or, should there be subject-specialist delivery where teachers, as well as subjects, are separated and timetabled accordingly? 'Fitness for purpose' (Alexander, 1992b) should determine the answer, whether speaking of content or the organisation of teachers. It is educational purposes that are contentious, not the pedagogy that follows from them.

2.4 Developments in Initial Teacher Education

McNamara et al (1982:71) outline a view of ITE prior to the establishment of CATE:

"The staff teaching B.Ed courses are predominantly male, middle-aged or older, have no recent teaching experience, have been engaged in teacher training for over ten years and have remained in the same institution for over ten years. The overwhelming majority gained their teaching experience in secondary schools... Half the staff teaching on junior courses and two-thirds of the staff teaching on infant courses have no experience of teaching these age ranges

themselves.”

CATE changed that view. Tutors on training courses were required to have recent, relevant and substantial classroom experience.

Circular 3/84 also required all intending nursery and primary teachers to study for the equivalent of 2 out of 4 years a full-time specialist subject, to an appropriate level for parallel students (e.g. those on a B.A. or B.Sc.) in higher education, and where possible alongside such students. Additional requirements, such as mathematics, language and science to be given 100 hours study time each, imposed severe restrictions upon the construction of B.Ed courses and the degree to which the remaining curriculum subjects could be adequately covered.

From 1984 all entrants to primary teacher education courses were required to have qualifications at a minimum of GCSE Grade 3 in English and mathematics (or its equivalent). Students thus qualified and following the PGCE route (25%) would have entered teaching from 1985 onwards, undergraduates from 1987. Many who entered primary teaching before this date will not have these basic qualifications. Science was added to this list in 1997 for entrants below a certain age. Under-graduate students with all three subjects as a standard entry qualification will not reach our primary schools until the millennium while the first batch of PGCEs will enter teaching in 1998.

Prior to the establishment of CATE the extent and depth of subject study was largely a provider variable. Different institutions produced different combinations of specialist subject-study and professional work. Circular 3/84 and the establishment of CATE brought to an abrupt end institutional autonomy in the nature and content of teacher education programmes. From CATE through to the TTA teacher educators are required to meet specified (and ever changing) criteria in order to be accredited as providers.

Circular 3/84 was only the beginning of criteria for teacher education courses. Regular revisions have dropped into the in-trays of teacher educators with Circular 14/93 'competences' subsequently being replaced by TTA 'standards' and a National Curriculum (NC) for teacher education in September 1998.

Alongside all this change has been the introduction of school-based teacher education (SCITTs) and an ever increasing role for schools and practising teachers in the training of new entrants. Since 1984 changes within teacher education have been constant. However, evaluation of the effects of each change has not been systematically undertaken nor used to inform construction of subsequent models (Barton, in Pollard Ed. 1996: 34).

3.0 The Case for and against Subject Specialist Teaching

The National Curriculum, with its focus on subjects and teacher subject knowledge, is but one alternative among many (Murphy et al, 1995:xi). However, it is the model that primary teachers are currently required to deliver. It is within the context of delivering the National Curriculum that this paper addresses the need (or not) for subject-specialists in primary schools.

3.1 Teacher Deployment

The key issue in determining teacher deployment is, *"... how far can the child beneficially take their learning further; and not, how can the class teacher manage the necessary teaching... No one form of teacher organisation is, routinely and universally, superior to others. The form of teacher deployment... should serve, not condition the education process."* (Thomas, 1992:6)

Alexander et al (1992a) identified 4 versions of the primary teacher role, generalist class teacher, generalist / consultant; semi-specialist and the specialist. Only the latter would spend all her time teaching her subject specialism(s). Examples of the first three types of teacher can readily be found in primary schools, and they are not new, although the use of semi-specialist teaching has undoubtedly increased since the introduction of the National Curriculum. For simplicity the subject-specialist and semi-specialist roles have been combined in the following discussion.

The generalist class-teacher, teaching a fully integrated curriculum, may fit the image of primary practice but is rarely a reality.

Teaching planned and organised around subjects is far more common (Alexander, in Murphy et al 1995:68; Thomas, 1990:153; Thornton, 1995a). Nevertheless, the integrated approach has been brought into disrepute (Murphy et al, 1995:271), partly because where teachers do cover many subjects at the same time (more than three), teaching is thought to be less effective (Sammons et al, 1995). Rather than full integration the dominant pattern has been 'basics' plus 'the rest', with the former timetabled for the morning and the later taught as topic work, usually in the afternoons (Thornton, 1995a; Alexander, 1984). As Alexander et al (1992a:3) note,

"The vast majority of primary schools organise the curriculum in terms of subjects and topic work. A small minority of schools organise the whole curriculum in terms of separate subjects: virtually no primary school works solely through topics."

A single subject focus in teaching sessions enables the teacher to concentrate on one thing at a time, but this is not an argument for either separate subject or subject-specialist teaching. HMI (OFSTED, 1992: para 3.27) found that forty-two percent of primary

lessons observed were single-subject based but that, *"... overall, lesson quality was no better on these occasions than when two or three subjects were being studied at the same time by different groups. Twelve of the twenty-two poor lessons (graded 5) were single subject lessons"*.

Alexander's (1984:38) analysis of research, regarding class teacher knowledge of the children they teach, questions the validity of the claim that the class teacher knows the child best. He cites simplistic frameworks, labelling, social-class assumptions and 'failure at the level of interpersonal relationships' as factors working against the child-knowledge claims for class-teaching. Despite this, the idea that generalist class-teachers can come to know their pupils well, and thus enhance their learning, is central to arguments in favour of its retention. Thomas (1990:158) states,

"The advantages of the class teacher system arise from the fact that the teacher and the children are together for a long time and get to know each other in a variety of teaching and learning circumstances. One aspect of a child's learning can be brought in to help and fill out another. It is possible to adapt to immediate needs without consulting many other teachers."

It is not just about knowing pupils well, it is also about effectively maintaining an overview of the *whole* educational experience of the child to ensure coherence, balance *and* that important but non-subject specific things are catered for (Moyle, 1992:139).

The Teacher as Generalist / Consultant

Webb (1994:62) found that coordinators had attended a range of courses, from twilight sessions to 20-day DES courses. The latter, in maths and science, were considered to have made 'a considerable contribution to teacher subject knowledge'. She also found that subject co-ordinators managed to raise general staff confidence in their subjects but that they had little impact on practice because of a lack of non-contact time in which to visit classrooms in action, to team-teach with colleagues or to monitor their work. This appears to be confirmed by OFSTED (1997: para17) who found the best examples of specialist teaching to be located in very small and very large schools, due to their extra numery posts and more generous funding. Lack of non-contact time and access to additional teachers were found to be the most significant constraints on primary teacher organisation and curriculum delivery (para 20). Without these innovative teaching roles, including specialist teaching, are unlikely to be adopted or effective.

However, Brown and Askew (1997) found that in the most effective school in their numeracy research, key staff, who were both knowledgeable and enthusiastic, ran sustained in-service training courses and that resources were allocated to enable the deputy and the maths co-ordinator to work alongside teachers in their

classrooms. The consultant role clearly can have a positive impact on generalist-class teaching if properly resourced (Alexander, 1992, in Pollard 1996:183).

While many consultant roles reflect the holder's training and / or INSET qualifications, many do not (Webb 1994). In some cases they are either chosen by teachers or simply assigned by head teachers on the basis of teacher interest, competence and / or school need. Thornton (1992) found that thirty-two of forty-one teachers in one LEA held responsibility for subjects in which they had no special expertise. Mismatches, such as drama in ITE - responsible for boys' games, maths and computers, are not surprising given the smallness of most primary schools. Over a third have fewer than 7 class teachers, fifty-five percent have 8 or less, over seventy percent have 10 or less (Walton, 1998), and most have the same number of teachers as there are registration classes. As a result it is common for primary teachers to wear 'multiple hats' in terms of curriculum responsibilities (Webb, 1994:54), and extremely rare for primary schools to have sufficient teachers to cover, individually and with special expertise, the National Curriculum subjects plus RE. One might expect small to average schools, with few teachers and thus a limited range of National Curriculum subject expertise, to do badly in national league tables compared to their larger peers, but they do not (Hargreaves et al, 1996:89). The teacher as generalist / consultant appears to work effectively for a great number of schools.

The Teacher as Subject-specialist

The subject knowledge of generalist class-teachers has been questioned, with the suggestion (TTA, 1997) that something approaching A level standard is required in all specialist subjects taught, plus NC level 7 in all other subjects. With a National Curriculum of effectively 11 subjects the demands placed on practising teachers and new entrants to the profession are heavy. This is potentially a strong argument for subject-specialist teaching and a focus on it in ITE.

Subject teaching and subject-specialist teaching is not new to primary teachers. Citing HMI 1978, Thomas (1990:157) notes that 73% of 7yr. olds, 85% of 9yr. olds and 90% of 11yr. olds were taught for at least some of the time by teachers other than their class teacher, mainly for music but also including subjects such as language, PE, art and craft, maths, French and science.

Watkinson (1992:8) views semi-specialist teaching as the 'best option' because it actually uses existing school staff, people who are known and are part of the staff team, thus enhancing credibility (see below). Moyles (1992:139) argues that subject-specialist teaching gives pupils insight into secondary school methods, reinforcing the view (Better Schools, 1985: para 65) that the

transition between the two age-phases should take place during the upper years of primary schooling. However, as a primary science specialist, Watkinson (1992:9) argues it is a secondary school model which she believes neither primary nor secondary colleagues would wish to see followed, because, 'more children seem turned off by the formal subject, laboratory-based lessons than are turned on'. There are draw-backs to the use of subject-specialist teaching. OFSTED (1997: para 23) notes that too much time and expertise can be invested in one subject; there can be over-reliance on one teacher; specialists can be unsupervised, and class exchange can have adverse effects when the subject- specialist's class are taught by several other teachers. The biggest draw-backs are associated with 'ad hoc' arrangements (para 17). This does not usually occur where small schools arrange a 'cluster' through which to share the subject expertise of teachers. This is a formal, structured arrangement, albeit difficult to organise and dependent on teacher cooperation, good will and the range of subject expertise they possess and are willing to share. Where clusters are well developed Webb (1993) found that they produce confident teachers. While supporting subject-specialist teaching in primary schools where a teacher knowledge-need and benefit to pupils is established, Thomas (1990 p159) argues 'it would be very disadvantageous to go anywhere near as far as the traditional secondary school system of specialisation'. Changes in ITE may precipitate any choice in the matter if new teachers are not prepared for the generalist class-teacher role. Given many of the weaknesses identified with secondary school subject-based teaching, it is interesting that this model is unquestioningly recommended by some for emulation in primary schools. Overall, subject-specialist teaching is already an accepted feature of primary teaching. Class-teachers acknowledge that their pupils can benefit from it, but they usually want this to be achieved while maintaining a class-teacher system (Webb, 1994:65)

Appointments and Credibility

Webb (1994) and Thornton (1995a) confirm HMI's report that, *"...fifty-one percent of heads considered that suitability as a general class teacher was the most important criterion when appointing a new teacher: only eight percent considered the subject specialism the most important criterion."* (OFSTED 1992:para 2.26)

There is a clear tension here between centralist moves and primary practice at the chalk-face. The desire and pressure for more subject-specialist teaching is not as yet a feasible option for most heads given the current funding arrangements and staffing of primary schools. New teachers have to fit in with, and be assessed as performing well in, a structure that relies principally on generalist class-teaching. Additional expertise is welcome but the primary

school, as currently funded and organised, must obtain good generalist class-teachers.

For credibility amongst colleagues new teachers and consultants (or subject-specialists) have to be good, generalist class-teachers (Thornton, 1990). Subject-specialism is important but secondary, following from expertise in generalist class-teaching. Without that base consultants are thought to lack credibility. Without credibility, their influence on others, a function of the consultant role, will be negligible (Thornton, 1995b:7). Webb (1994:61) notes that, *"... regardless of status, heads thought the most effective (subject) co-ordinators were those whose practice staff admired, who were able communicators..."*

Head teachers can be viewed as mediators of the attitudes, beliefs and values of their teachers, and of external issues and events affecting the school. They are gate-keepers to central initiatives, including those relating to subject-specialist teaching. Without their support it will not happen.

Summary: Teacher Deployment

HMI, DfEE and OFSTED publications have demonstrated that topic or integrated curriculum work, delivered by generalist class teachers, can be effective tools for enhancing children's learning. So too can separate subject teaching, consultancy and subject-specialist teaching. No one method has a monopoly on effectiveness.

Assertions of the need to change from generalist class-teaching to subject-specialist teaching are not supported by clear evidence of greater effectiveness. Alexander (1992, in Pollard 1996:183) states, *"It is naive in the extreme to see full specialisation as a panacea - were this the case, there would be no problems in secondary schools."*

No doubt there are problems with the current model of generalist class-teaching but these are not inevitable features of the system. There are also considerable problems with secondary school subject-based models (OFSTED, 1992: para 3.14 and 3.22). There can be little justification for changing from one model that does not always work as well in practice as it could, to another which also clearly has faults in terms of effectiveness.

3.2 Teacher Subject-knowledge and Effective Teaching

Research (Bennett and Carre, 1993) continues to confirm the importance of subject knowledge to effective teaching. Clearly, teachers cannot teach well that which they do not know themselves. The key question is do they or can they be expected to know all that the National Curriculum requires them to teach. 'Managing' is not enough. With help if necessary, without help if not, *all teachers*

should be competent to teach that which they teach (Thornton, 1995b:7). If they are not, or cannot reasonably become, competent, then others must teach for them that which they are not competent to teach. Anything less is unfair to their pupils. Some primary teachers are clearly able to fulfil this, others are clearly not, nor, some argue, is it reasonable to expect them to do so (HMI, 1997: para 26; Better Schools, 1985: para 62).

One strong argument for better subject knowledge and subject-specialist teaching focuses on teachers in-depth understanding of the underlying concepts, principles and ways of thinking that underpin the subject in order to be effective teachers of that subject (Shulman, 1984, in Pollard Ed. 1996:164-5). They need such depth in order to cope with novel situations (Bennett and Turner-Bisset, 1993:189-90, in Bennett and Carre). However, such in-depth subject-knowledge, whilst necessary, is not a sufficient condition on its own for effective teaching. Effective primary teachers need much more. And their effectiveness is in large part influenced by the context in which they work and how that context is managed (Bennett et al, in 1993:215, in Bennett and Carre).

Dunne and Wragg (1994:8, citing Dunne and Harvard) outline nine dimensions of effective teaching, observable in teachers' daily work and about which teachers must make constant decisions. These dimensions are broken down into seven or eight levels of competence of which subject matter is but one small part. To focus solely on teachers' subject knowledge could effectively detract from all the other elements required to be an effective teacher. Maynard (1996:34, in McIntyre) quotes O'Hear as stating that,

"all that is essentially required in order to become a good teacher is a sound knowledge and love of the subject one is teaching".

The research evidence does not support this view. Teachers' subject knowledge is just one of many dimensions in effective teaching. It is a necessary but not sufficient condition (Sammons et al, 1995:14).

The Exeter research (Bennett and Carre, 1993) with PGCE primary students sought to discover if 'student-teachers teach their subject specialism to higher levels of competence than other students' for whom it was not a subject specialism. Reporting on the same research project, Bennett and Turner-Bisset (1993:164)), while acknowledging small sample size, found that,

"Subject knowledge for teaching was a more powerful influence than specialist curriculum courses on teaching performance"

They note that this finding is in line with other recent studies undertaken in America. However they argue, as does Campbell (1994:254), that a clearer understanding is needed of any relationship between knowledge bases and teacher performance (p150). Such data is scarce, but Brown and Askew (1997), found that A level knowledge of maths was, in fact, related to lower levels of teacher effectiveness, not higher, at least within their sample of

73 teachers.

The level of teacher subject-knowledge required for teaching is a complex issue and unlikely to be amenable to 'quick fix' solutions. It is just one aspect of effective teaching. Wragg(1994: p186) and Alexander (1992b) note that there are unlikely to be clear cut answers to questions relating to teacher effectiveness, pupil outcomes and the contrasting primary teacher roles of generalist or subject-specialist:

"The truth of the matter is that some generalist class-teachers are extremely effective across the board, while some (subject) specialists are extremely ineffective even within the one professed subject." (Alexander, 1992b:204)

Effective Teaching

Alexander (1995, in Murphy et al 1995:66) states that, 'effectiveness as a criterion existing on its own is meaningless'. The debate about effectiveness (or 'good practice', to use Alexander's terms) is riddled with value judgements and political assertions. Elliot (1996:207) argues that so many qualifications are now attached to criteria for school effectiveness (instability over time, contextual differences and differential effects on different groupings of pupils) that the cited criteria have themselves become meaningless.

Any judgement as to a system's 'effectiveness' must make reference to the aims and objectives of the system itself. For the purposes of this paper effectiveness is explored in relation to subject-specialist and generalist class-teacher delivery of the National Curriculum, but we proceed with caution because it is not the only measure of effectiveness. Using Elliot's (1996:p215) terms, these are 'manifestations of the operation of systems variables' rather than reference points to actual teachers who are ultimately responsible for both teaching quality and effecting change.

Brown and Askew (1997) found that the teachers with the lowest pupil numeracy gains,

"seemed to be mainly subject-centred ('transmission' teachers) or child-centred ('discovery' teachers). Transmission teachers emphasised particular methods which children were expected to imitate, but without linking mathematical ideas, and without taking account of pupils' own understandings."

The most effective teachers ('connectionist') went beyond inert knowledge transmission, having,

"...a set of common coherent beliefs about the nature of numeracy, the way children learn it, and effective ways of teaching it."

These included problem solving strategies, constant informal and formal assessment, concern for pupil attitudes, a challenging approach and high expectations of all their pupils. This concurs with Calderhead's (1994, in Pollard Ed. 1996) and others views of

effective teaching as complex work, and contrasts sharply to those 'enshrined in the current language of 'competences' and 'subject-matter knowledge'. In her review of school effectiveness research, Sammons (1995:24-25) concluded that,

"The results of our review do not support the view that any one particular teaching style is more effective than others... the ability to adapt teaching approaches for different purposes and groups is more important than notions of one single 'style' being better than the others... Efficient organisation, fitness for purpose, flexibility of approach and intellectual challenge are of greater relevance."

The Inspection Evidence

Clearly some primary teachers lack the required knowledge-base for teaching the whole curriculum. In 1983 HMI (Teaching Quality 1983: para 27) found that, 'in nearly a quarter of the primary school lessons seen teachers showed signs of insecurity in the subject being taught'. By 1988, new teachers were thought to lack mastery of the subject taught in more than half the classes observed (HMI, 1988). However, in 1992 OFSTED (para 3.10) found that,

"Overall, the subject knowledge of the primary teachers was at least satisfactory in 83% of lessons, with 20% assessed as very good... an improvement of 6% on the 1987 survey. Of these very good lessons, nearly two-thirds were taught by teachers with specialist expertise in the subject... The data suggest that when one of the teacher's own specialist subjects was part of the lesson, the level of performance was enhanced."

However, 83% 'satisfactory' lessons is not an indicator of major problems with current methods of organising and deploying primary teachers despite the increase in subject knowledge required by the National Curriculum (Thornton, 1995b:8).

OFSTED has confirmed previous HMI reports that poor teaching is associated with weak pedagogical skills, teaching to average ability levels / non-differentiation of work, low expectations of pupils and teachers lack of subject knowledge and understanding, with weak pedagogical skills cited as the main reason for unsatisfactory or poor pupil performance (OFSTED, 1994: para 12). Despite the increase in subject knowledge required of primary teachers the factors affecting teacher effectiveness remain the same and it is difficult to see how a move to greater subject specialism will resolve weakness in, for example, pedagogical skills and teacher expectations (Thornton, 1995b:7)

No recent primary school staffing survey could be found, nor any direct evidence from HMI/ OFSTED inspections, that establishes and maps existing teacher subject knowledge onto assessments of their ability to teach it effectively and in sufficient depth. One could perhaps make these deductions from DfEE statistics covering

entrance qualifications to, and subject specialisms acquired during, ITE courses, but that would not provide a full picture of the range and level of subject- expertise present (or not) in the primary teaching force. Whilst such information sources may indicate a lack, for example, of IT specialists, it takes no account of a mature students past experiences in, say, industry, where they may have acquired a substantial and thorough knowledge and understanding of IT, or of the substantial number of primary teachers undertaking non-DfEE-based INSET work over the past 10 years. Bennett and Turner-Bisset (1993:149, in Bennett and Carre) state that, *"...current claims for the impact of knowledge bases are stronger than the empirical evidence, particularly with regard to primary teachers, who most often operate as generalists rather than subject specialists."*

However, citing HMCI (1997: para 26), OFSTED claim that, *"...by Key Stage 2 teachers in one in eight schools have insufficient subject expertise, particularly in information technology, design and technology, mathematics, science and religious education."*

And that,

"... pupils taught by 'semi-specialists' achieved higher standards than those in lessons taught by non-specialists", (OFSTED, 1997: para3).

It is not however clear where the evidence for these statements can be found. The 1997 report continues,

"The quality of the teaching of subject-specialists is almost always better than that of non-specialists. In virtually all lessons where high standards are achieved, teachers have sound or good knowledge of the subject they are actually teaching." (para 18)

Evidence in support of the first sentence is not provided in the 1997 report. The second sentence merely repeats the truism that teachers must know well that which they teach. It is the connections between subject-specialist knowledge and effective teaching, not teacher knowledge of the subject taught, that is at issue here. It is by no means clear that subject-knowledge and higher quality teaching are more likely to come from subject-specialists than from generalist class-teachers (or from those primary teachers with either an A level, a degree, an ITE specialism, attendance at an INSET course or a mere interest in that subject). There is a need to establish where the differences lie, the underlying causes of the 'good teaching' cited and to relate them to the level and source(s) of teacher-knowledge before claims for subject-specialist teaching can be established. Hard evidence is needed, not assumption or assertion.

CATE's (3/84) and the TTA's prescriptions for ITE have turned the view that primary teachers lack sufficient depth of subject knowledge into a requirement, not that intending primary teachers study more subjects in depth, but that they study one subject in

even greater depth. This has obvious and far reaching consequences for generalist class-teaching across the primary curriculum. It could be argued that the requirement for primary teachers to become specialists in a particular subject actually results in a narrowing of primary teacher skills and knowledge, a de-skilling process. Using HMI's own terms (TES, 1987), it will surely lead to even less adequate coverage of more areas of the curriculum where subject-specialist teachers are appointed as generalist class-teachers. This is necessarily so because the depth and extent of coverage during ITE, of those curriculum areas which are not a teacher's specialism, will be further limited.

Primary School Staffing

Primary schools experience similar shortages of subject-specialists in maths and science as do secondary schools, and most have fewer teachers than there are NC subjects (Thomas, 1990:163-4).

Irrespective of staffing levels, there simply are not enough subject-specialist teachers in certain subjects to go round the number of primary schools. Even if there were, their expertise could not be effectively used for subject-specialist teaching without a fundamental change in the funding and staffing levels of primary schools (Alexander, 1992b). Staffing levels are key to increased and better use of subject-expertise in primary schools.

One important feature of the Leeds Primary Needs Project was that it provided staff flexibility through 'registration group plus one' staffing levels. Alexander (1992b:202-3) notes that,

"...primary schools operate on a shoe-string budget... They have hardly any room for manoeuvre, and certainly little opportunity to deploy their staff as other than class teachers, except by increasing class sizes.... For as long as the curriculum was minimalist - give high priority to the basics, do what you can with the rest - the class-teacher system worked quite well. The consultancy idea was a useful patching device as the curriculum expanded."

He believes that the class-teacher system can no longer deliver all that is required (NC core and foundation, RE and cross-curricular themes), but he describes as 'premature and ill-conceived' (p204) the notion of subject specialist teaching in years 5 and 6, and the suggestion that streaming is the answer. The issue, he says, is both large and complex, with the resources required likely to be substantial. The removal, from September 1998, of statutory requirements to teach the foundation subjects, and renewed emphasis on 'basics', could lead back to the 'minimalist' curriculum that Alexander describes. This too will have implications for the class-teacher / subject-specialist debate.

Extra staffing in primary schools would facilitate an effective extension of the consultancy role and increase opportunity for subject-specialist teaching. The latter may not be required if

enhanced staffing enabled consultants to team-teach with colleagues; observe, monitor and advise; undertake further subject training and run INSET for others. Innovation around teacher deployment strategies is only feasible if there is greater flexibility around staffing levels in most primary schools. Webb (1993) and Hargreaves et al (1996) found such innovation in small schools which were often more generously staffed (as were very large schools). While small schools can make good use of consultancy and subject-specialist teaching their ability to cope with full curriculum coverage would be diminished if their teachers had a narrow subject-specialist training in ITE. Many primary teachers, but especially those in small schools, carry responsibility for several curriculum subjects and undertake generalist as well as specialist teaching roles.

3.3 Primary Teacher Status

In current educational discourse the status and professional ability of primary (and early years) teachers has been effectively undermined by the appropriation of the label 'specialist' to refer to only subject specialists (Campbell, 1992; Thornton, 1995b). When Secretaries of State for Education (and others), call for more specialist teaching in primary schools they are calling for more subject teaching. The implication is that non-subject-based teachers do not have specialist knowledge and skills. John Patten's 'mums army' proposal made explicit the lowly status of such so-called 'non-specialist' work and contributes to the wider perception of primary teaching as low in status, non-specialised and akin to mothering. When characterised in this way primary teaching appears to lack intellectual challenge, especially for graduates considering a PGCE course. This, and the de-skilling of teachers by National Curriculum and TTA prescription, affects the recruitment of well qualified students to primary ITE. A move to subject-specialist teaching could raise the status of primary teachers and the recruitment of more highly qualified students, but that of itself is not an educationally valid reason for doing it.

The establishment of a General Teaching Council (GTC) may improve the professional status of teachers overall but it is unclear how primary teacher status within that framework may be enhanced. Any improvement is a long way off with GTC inauguration delayed until the year 2000.

4.0 ITE and Subject-specialist Teaching

Alexander (1992:204) asks, if there are to be different primary teacher roles should there be different ITE routes for them? 'What are the logistical and recruitment implications of introducing specialists?'. How many extra teachers would be needed, and how

would it be funded? There are no easy answers to these important questions but some factors need to be considered when seeking answers. These are discussed below.

4.1 Insights into ITE

Sutherland's Report (1997: para 62) notes that, 'there is insufficient evidence to suggest that provision by HE is inadequate'. Instead, the evidence available from OFSTED indicates that, overall, it is good, with 71% good or very good in the first 'sweep'. He questions past and present inspection of NQTs as evidence of ITE quality because it oversimplifies the link between ITE and classroom competence. It also fails to account for school environment and induction (para 76), which Bennett and Carre (1993) also note as important factors in new teacher competence.

HMI found that B.Ed. students were much more satisfied with their ITE than PGCE trained teachers and that B.Ed trained new primary teachers tended to out-perform PGCE trained ones (OFSTED, 1992: paras 3.39, 4.12). Of B.Ed trained teachers,

"...forty-one percent were judged to have high overall performance (grades 1 and 2) compared with thirty-two percent who had followed a PGCE course. A higher proportion of very good lessons was taught by B.Ed trained teachers... (of) eighteen primary teachers whose overall performance was outstanding (grade 1), fourteen... had followed the B.Ed route."

Sutherland's Report (1997) suggests that the one year PGCE 'may be insufficient to adequately prepare trainees for their role as teachers' (para 30), but that the B.Ed is a suitable route especially for KS1 teachers (para 33). He suggests consideration of greater differentiation in ITE routes by linking teacher education to the requirements for teaching the NC at different levels (para 32). If the demands on primary teachers' subject-knowledge are demonstrated to be too great, and if teacher subject-knowledge is evidenced to be the key to raising standards, then this may be a way forward.

However, the new NC for ITE (Circular 10/97) allows for little differentiation, stating that *all* primary teachers must have knowledge and understanding of the core subjects and their specialisms across the full age-range to level 7, plus IT knowledge equivalent to level 8, and specialist-subject knowledge approximating A level standard. Additional, not alternative, requirements are made of early years teachers.

How realistic an expectation is this, even of the more highly qualified applicants currently sought? Following Sutherland, and the newly reduced National Curriculum statutory requirements, logic suggests a more differentiated ITE NC with all primary students specialising in core curriculum subjects plus child development and theories of learning. Foundation subject-knowledge and subject-

specialist expertise could be left to KS2 ITE. Generalist class-teacher subject-knowledge might reasonably be expected if it were accepted that A level competence in all specialist subjects was not feasible or necessary, and that TTA standards should refer to levels normally expected within the primary age-range. Extra provision for high flyers could then be provided with additional specialist teaching or consultancy support for generalist class teachers.

4.2 School-based Aspects of ITE

Quality

The quality of school experience depends largely on the quality of the teacher and school with which the student works. The teachers are usually selected by the head teacher, not by the HEI, which has little control over this aspect of training. They are particularly important as the school-based element of ITE increases (OFSTED 1992: para 4.34). McCulloch et al (1994:29-30, citing HMI 1991: para 37) notes,

"A consistent finding... from inspection is that the overall quality of training is not a direct product of the amount of time spent in schools ...but rather of the quality of the teachers and the relationships between schools and training institutions."

Dunne (1993:135) citing others, suggests that, 'classroom teachers as role- models have the greatest influence on student development'. Reports from students would seem to reinforce this view. However, there are serious problems about acquiring and using role-models of the right calibre, and in many instances students have little opportunity to emulate class-teachers when used as supply cover for teacher illness or extended course attendance.

Experiential Learning

Bennett and Carre (1993:3) believe that school-based placements supervised by classroom teachers will reinforce traditional beliefs and methods. Citing Joyce they state, 'no better method has been devised for preventing change in a social institution than to apprentice the novice to his elder'. This has implications for quality and innovative methods. However, the Exeter study found that, because student teacher knowledge learning was most significant when related to practice i.e. situated and in context, then,

"...training environments should be as similar as possible to the environment in which the knowledge and skills are to be used. This in turn appears to argue for a substantial proportion of training to be classroom-based, initially at least, within an apprenticeship model." (p219)

Elliot (1991, in Pollard Ed. 1996:21) agrees that worthwhile professional learning is experiential, based in real practical

situations which are problematic, and that 'the acquisition of knowledge should proceed interactively with reflecting about real practical situations'. The National Commission on Education (1993: 214), also believes that classroom skills are best learnt through school experience and, by implication, subject knowledge best acquired during HE parts of ITE. Clearly there is a dilemma here. Apprenticeship inhibits change, can result in the 'recycling of deficiencies', and is unlikely to enhance student teachers' specialist (or other) subject expertise if the subject knowledge of the current teaching force is as inadequate as claimed by HMCI and others. However, it is also fundamental to student learning. A school's teacher deployment, timetabling and curriculum organisation affect opportunities for subject-specialist teaching by students. Students also need to 'fit in' (Bennett and Turner-Bisset, 1993, in Bennett and Carre). Students cannot emulate, or adopt, and HEIs cannot impose, teaching models that do not accord with school practice.

HEIs and School-based Contributions to ITE

Issues such as choice of schools, teachers' expertise as trainers, good role models, variety of student experience, NC subject knowledge, time for teachers to work with students, student selection, assessment of performance, counselling of students to leave, and induction are all important and will need to be addressed (HMI, OFSTED, 1992:41). Dunne (1993:148, citing Feiman et al) notes, 'teachers do not always have the expertise to be teacher educators'. Their expertise as trainers needs to be developed if the Exeter findings, relating to acquiring knowledge in context, are to be implemented. Bennett et al (in Bennett and Carre, 1993:220) argue that,

"... any form of apprenticeship requires adequate training of the cooperating teacher / mentor because assumptions that good teachers make good mentors, have been disputed".

It may be that for modelling ITE students need good class-teacher, consultant and subject-specialist examples to emulate, but for mentoring and subject-knowledge input they may need someone else.

Maynard (1996:51, in McIntyre) argues that any school-based focus on subject-knowledge would be best directed at knowledge about teaching that subject because classroom teachers, or mentors, are unlikely to possess, or claim to have, the subject knowledge that student teachers require.

Campbell's (1994:255) review of Bennett and Carre (1993), argues that its findings,

".. confront(s) explicitly and sharply the current policy intention of basing more of initial teacher training in primary schools. If specialist knowledge is important for the quality of teaching..."

shifting more training out of universities is highly problematic. University training may have its limitations ... but school-based training ... is almost certain, in respect of subject knowledge, to lead to the 'recycling of deficiencies'."

The research, whilst supporting school-HEI partnership, does not indicate value in extending school-based teacher education, either the newly revamped 'Beacon Schools' initiative (TESb, 1998:1), or SCITT provision which is more costly and has been found to be less effective in outcomes (HMI, 1991) and in recruitment (TES 1998b:1). Schools have neither the capacity nor expertise to take on extra responsibility for ITE without considerable extra support (National Commission on Education, 1993:215, citing HMI). Their chief concern must always be the education of pupils and the government is vague about financial resources for schools willing to extend their commitment to ITE (McCulloch et al, 1994:32). The true cost of the different models must be assessed. Those chosen must be appropriately resourced, based on evidence of their effectiveness and value for money.

5.0 The Future for ITE

Sutherland (1997: para 31) believes that there should be a more flexible approach to entry points for teacher training. He proposes a new 2+2 course consisting of degree level subject study for two years, followed by two years teacher training. This would provide an alternative entry point whilst at the same time increasing the length of training (over PGCE route) and the subject knowledge of entrants (para 34). The 2+2 model envisaged it not unlike many of the post CATE 3/84 B.Ed models, where ITE students were able to opt *out*, rather than opting into teacher education through degree level subject-study alongside BA and B.Sc. students. A key problem with such degrees, and one suspects more so with Sutherland's proposal, is that of the relevance of the subject-knowledge acquired to the primary school curriculum. This is more readily achieved through the B.Ed route than through the first two years of a BA / B.Sc. Alternatively, if early commitment is the problem, an extension of the PGCE might be more effective in terms of recruitment and competence, especially if tuition fees were not levied. A 2+2 degree, focused on two years 'subject-knowledge for teaching' in HEIs, followed by two years school-based professional learning (with continued HEI input) might be a model worthy of further exploration, as would greater use of APL/ APEL to enable varied and individualised lengths and contents of training. The assumption, widely held, that PGCE entrants to ITE will have already acquired their specialist subject-knowledge, is challenged by Bennett and Carre (1993:13). Like the 2+2 route, the content of a subject degree often bears little relationship to the primary

curriculum. In the Exeter study (Bennett et al, 1993:212, in Bennett and Carre) PGCE entrants were found to lack the substantive and syntactical knowledge necessary to teach at primary school level. Yet these students presumably had degrees in the specialist-subjects they were training to teach, albeit predominantly at the lower second, and sometimes third class level. Sutherland (1997) is concerned that the B.Ed route 'attracts weaker applicants' (para 33), but A levels, like degrees, are poor predictors of effective teaching (Brown and Askew, 1997; Wragg (1982:79). Overall a variety of routes into primary teaching is possible, but all of them must ensure adequate subject-knowledge and teaching competence for the type of school and organisational form in which they will be expected to teach. For primary schools that will predominantly be the generalist class teacher system unless and until a massive reorganisation, and injection of additional funding, is undertaken. The School Teachers' Review Body (1996: para 36,37) found that the new teachers' starting salary vis-à-vis other graduates had worsened over the previous three years, as had comparative salary progression. Whilst current student teachers say they are not in it for the money, if more highly qualified entrants are sought, and are not currently amongst those attracted to teaching as a career, then starting salary and progression may well need to be addressed as a matter of urgency.

There is also a 'chicken and egg' situation with the National Commission (1993) arguing that,

"the more attractive teaching is seen as a career option the more it will attract high quality potential teachers and higher quality entrants will raise the status of the profession and contribute to its effectiveness".

Breaking into this cycle requires a higher social valuing of primary teachers, as evidenced in resource provision, salaries and praise for the quality of their work. Whilst the political climate may have changed in this direction much more needs to be done, publicly and in practical terms.

5.1 The CPD Continuum

Bennett et al (1993:219, in Bennett and Carre) and Alexander et al (1992a) argue that teacher education should be seen as a continuum, from a base or foundation provided in ITE, through continuous further professional development. OFSTED (1992) believes that the quality of induction and INSET must be raised, such that further training builds on initial training. The TTA have taken this up through new criteria for funding CPD courses and profiles of professional development which will soon accompany teachers throughout their careers.

If everything needed cannot be covered during ITE, what should be

taught there and what should be left for later? If subject-specialist teaching is to be further encouraged then the only logical and efficient source is likely to be the HE parts of ITE, but the required depth and breadth of subject focus may leave NQTs ill-equipped to undertake first appointments as generalist or subject-specialist teachers. The 2+2 model indicated above may offer a solution. Trainees with a post-CATE subject-specialism did not enter primary schools in significant numbers until the 1990s. Even these teachers will be likely, according to current 'standards', to lack the required levels of specialist-subject knowledge. What chance then for those teachers trained pre-CATE? Change can only occur at a pace matched by changes in the teaching force. Either a massive and targeted INSET programme for consultancy and specialist teaching must be provided (Wragg, 1993:187), or change will be slow, if possible at all, given that new teacher induction into current school practice (class-teacher based) overtakes ITE input quite rapidly. The type of CPD effective at enhancing established teachers' subject-knowledge also has to be addressed. Brown and Askew (1997) found that attendance at GEST 20-day courses was strongly associated with high effectiveness in the teaching of maths. They also found a similar positive association with high quality, in-school, INSET and team-teaching by subject consultants. Intensive CPD for enhancement of the consultancy role may be the best way forward for existing teachers working mainly as generalist class-teachers.

5.2 Staffing

As early as 1985 the Select Committee on Education was told that 15,000 more primary teachers were needed just to maintain pupil teacher ratios. Thomas (1992:6) noted that staffing had in fact worsened, not improved. Yet staffing is a key issue if subject expertise is to be effectively utilised in primary schools for consultancy and specialist teaching. It is only where schools have staffing flexibility (extra-numery or peripatetic) that innovative teacher organisation is possible and thus greater use can be made of subject-specialist teacher knowledge.

There is also the fear, expressed by McCulloch and Fidler (1994:175, in McCulloch et al) that teachers trained under the varying post-CATE criteria 'will be suited only for the present climate'. Their range of skills and knowledge about teaching has been limited to, 'a series of competences related to what is demanded by the current state of the art (teaching the National Curriculum)'. Teachers for the next millennium will need to be more flexible than that.

6.0 End Points

Better Schools (1985: para 298) stated, 'steps will be taken to plug the gaps which now exist in the centrally available information about the academic qualifications of newly qualified teachers so that comparisons can be made over time'. Such information, if available, is not readily accessible. Any comparisons made will be weak because they will not directly link effective teaching with teacher subject-knowledge and pupil achievement. It is a blunt instrument for planning INSET, ITE courses, and student entry criteria and qualifications. NQTs continue to be appointed as generalist class-teachers in primary schools. They are now trained to be subject-specialists. As such they are less likely to be prepared to effectively cover the whole curriculum.

The pressure for subject-specialist teaching emanates from a concern with content and demonstrable knowledge-acquisition by pupils and teachers to improve standards. The resistance of primary teachers to its adoption stems not from a rejection of content (they may claim to teach children not subjects, but they do teach children something i.e. subjects), but from a rejection of inert knowledge acquisition and its transmission and assessment as the major purpose of education. Effective teachers, generalist or specialist, ensure that knowledge is individually and actively acquired by pupils, not inertly transmitted from teacher to pupil (Nisbet, in Murphy et al 1995:293)

Evidence is needed, but not yet available, of the effects on pupil learning of subject-specialist and generalist class-teaching. This must be separated out from teacher subject-knowledge which is a separate but important issue. Evidence is needed about the source and extent of effective teachers' subject knowledge, and how this relates to effective teaching (Campbell, 1994:254). In ITE the implication is that detailed entry-output profiles of students are needed to assess the level of teacher subject-knowledge that is most predictive, if at all, of effective teaching.

The case against generalist class-teaching has not been satisfactorily made, and evidence of the greater effectiveness of proposed alternatives has been more asserted than presented. Poor or ineffective teaching is no less, or more, likely to occur in subject-specialist teaching than in generalist class-teaching (OFSTED, 1994: para 52). What really matters is the quality of the teaching as a whole (Thornton 1995b).

This lack of evidence, Bennett et al (1993:220) claim, results in a 'conceptual void', where proposals for reform of ITE and primary teaching reflect 'political polemic'. They believe that teacher educators must take some responsibility for this and in future be as reflective of their own practice as they expect teachers to be of theirs. Elliot (1991, in Pollard Ed. 1996:19) notes that,

"People tend to be clearer about the limitations of current practice than the shape of things to come... the development of conceptual clarity proceeds interactively with the experience of innovation rather than in advance of it. It is through a reflective dialogue... that the new value becomes articulated and clarified."

That dialogue is essential if traditional views and outdated stereotypes, on all sides, are to be overcome. Imposition without ongoing dialogue, evidence and evaluation will not work well at raising the standards of teachers or the pupils they teach.

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