AN EXAMINATION OF DIFFERENTIATION

by

John Visser

A study submitted to the Faculty of Education
of The University of Birmingham
for the award of an official degree

School of Education
The University of Birmingham
March 1998

1st of 2 files

Main thesis

The appendices are in a separate file

Contents

Tables and Figures

In Acknowledgement

My eye saw

My ear leaned

My brain ducked

To see if this tome proves of worth

as one word was put infront of the other.

Thanks to all who contributed to the thoughts, ideas and

notions herein contained.

J.G.V.

March 1998

Abstract

The term differentiation has been widely used within education. This study makes use of the author's professional experience and a literature review to present a model of differentiation in practice; it seeks to suggest ways in which teachers' skills can be enhanced.

The study aims to give an understanding of how teachers differentiate; what they say they do; and what can be described as good practice.

Together with the wide ranging review of the literature, it draws upon field research, interviews, questionnaires, an analysis of OfSTED inspection reports and the author's experiences of running staff development courses on differentiation. It also includes work published by the author.

The study is an original presentation of a comprehensive review about differentiation from the perspectives of the literature and serving teachers and contributes to the debate upon the methodological approaches to the study of the development of teaching skills.

Conclusions are offered based upon an analysis and a discussion of these sources.

Preface

The central theme of the study is diversity as it relates to pupils and teachers. In particular the issues teachers face when teaching a group of pupils: how do teachers differentiate to meet this diversity? What are the factors which effect and affect this differentiation? Drawing on teachers' experience of teaching and learning, the study discusses the challenges facing teachers in achieving a match between their teaching and pupils' learning, and how these difficulties might be resolved. A central professional concern for this author has been, and remains, how to improve the quality of teaching and learning in classrooms.

The study is a summation of an aspect of the author's professional concerns as a lecturer within higher education. As a teacher, he worked mainly in mainstream education, culminating as a member of the senior management team in a large comprehensive school. For the past eighteen years he has worked with initial and in-service teachers to provide a range of staff development. He has organised annual conferences for professional special educational organisations, and three international conferences, served on the national committees of two non-governmental organisations and on two international boards. He has also been a member of a variety of national and international committees. The study reflects the discussions, teaching experiences, evaluations and critical feedback the author received from working with these groups of teachers, advisors, administrators, higher education tutors and researchers.

During this latter period opportunities occurred to conduct surveys and interview staff. Both have been incorporated into the study as contributions from field research, while other less formal questionnaires and interviews also inform the lines of argument. The study includes five published works related to the area of this study are included in appendix six; other work published by the author is listed in appendix one. Ideas and comments first expressed in these publications have also impinged upon the thinking and analysis which underpin this study.

The author's interest in this area of education stems from a professional commitment to pupils with special educational needs, particularly those with learning and emotional and behavioural difficulties (see appendix one for evidence). It became apparent working with these pupils and their teachers that the causes of their difficulties did not always solely lie within their social or economic circumstances. Nor was it always a problem of cognitive ability. Debilitating as these factors often were to pupils' achievements, they did not explain why some pupils seemed to thrive and others did not within the educational system. Indeed, within any one school, pupils' achievements appeared to vary widely from teacher to teacher.

Personal experience, professional discussions and educational literature indicated that a main feature promoting pupils' achievements is the relationship between teacher and pupil. A number of factors create this relationship. These are embedded in a teacher's values, attitudes and beliefs about teaching and pupils and find expression in the variety of their

teaching styles. The author formed a professional judgement that high achievement was accomplished when teaching and learning styles had a degree of congruence.

There is little agreement in the field as to the definition of teaching style (Rayner and Riding 1997). The term used in this study encapsulates more than the mere placing of information before pupils within a classroom and, consequently does not subscribe to a reductionistic view of teaching and learning, where teaching and learning is reduced to three components, input, task and output (Spillman 1991). Rather, it views teaching and learning as an interactional process where it is difficult to separate one from the other. To learn is to teach and to teach is to learn. The one models the other (Joyce, Calhoun and Hopkins 1997).

The study uses the term teaching style to cover all that a teacher does in organising and presenting lessons; these include observable and intrinsic actions. Their characteristics can be summarised as follows:

- Creation of atmosphere
- Retention of control
- Lively presentation
- Clarity of purpose
- Appropriate expectations
- Personable, mature relationships
- Subject knowledge

(Brown & McIntyre 1993)

These are all factors which pupils comment on as being present in 'good' lessons. OfSTED (1995) have a similar list of criteria against which to make judgements about the quality of teaching in schools.

The learning styles of pupils is, similarly, a broad concept. It incorporates cognitive abilities and strategies which have been the subject of wide ranging research from the study of Intelligence Quotients (IQ) to multiple intelligences. (See for example Riding and Rayner 1997.) Pupils' personalities and motivation have also been the subject of studies. These aspects of pupils have been studied separately. The use of the term learning styles within this study includes all these aspects of pupils' ability, together with their approaches to learning, and the strategies, they find most conducive to learning. However, it does not focus upon them.

Importantly, the study maintains that if the achievement of all pupils is to be raised in schools it is the interaction between teaching styles and learning styles which needs to be better understood. Whilst class sizes, material resources, the physical state of buildings, and socio-economic factors will play a part in children's achievements, it is the match between teaching and learning which is seen as the crucial element.

This conceptualisation of teaching and learning styles embodies a large number of variables which make for challenges in terms of research and application and which may not be possible of achievement. The challenge for researchers is to devise a research model which

captures these variables; for teachers it is to differentiate at a level which encapsulates all these variables all of the time. The former may explain why there is a paucity of published research on differentiation; the latter why so many writers indicate that differentiation is lacking in classrooms.

1. Introduction

1.1 The term: Differentiation

The term differentiation occurs in a number of ways in the literature in relation to the diverse nature of pupils. The challenge of responding to diversity is not new. Educators have endeavoured to find ways in which the task of teaching and enabling pupils to learn can be made as easy as possible for the teacher while achieving the maximum progress for the learner. This process has been seen in terms of achievement in a common, alternative or modified curriculum. The content of the curriculum has been frequently associated with the grouping and placement of pupils. Maximum progress for individual pupils has also been perceived as a function of grouping and placing pupils in different provision.

In responding to diversity, educators have debated the grouping of pupils, the curriculum in terms of its content, and the relationship between teaching and learning. These debates are to be found in the earliest writings on education which make specific mention of the problems of matching styles of teaching to pupils' learning styles.

1.2 Diversity

A central issue to any discussion on differentiation is the nature of society's reaction to the diversity within the human race. In particular, the range of diversity that is to be

acknowledged amongst its young people and the extent to which the education provided acknowledges this diversity. Educational writers are rarely explicit about their particular attitudes, beliefs and values on these matters. Whilst acknowledging the importance of these factors this study does not seeks to analyse the personal attributes of teachers. Rather, it seeks to trace the use of differentiation by educators who are interested in the diversity of pupils, and how their learning could be managed. It assumes that in an interactionist view of teaching and learning, teachers are striving to equally value every pupil; believe that pupils are capable of learning; and display attitudes towards them which convey these attributes.

The variety of values, attitudes and beliefs held by educators may account for some of the inconsistencies in the use of the term differentiation. The author believes that descriptive terms, such as differentiation, require a more consistent understanding by educators if they are to be useful professionally. This would require educators to be more explicit, and perhaps, more aware of the importance of their own values as they affect the teaching and learning process.

An informal approach made to teachers to ascertain whether all children are different usually elicits a positive response. They will refer to various attributes of pupils such as personality characteristics, familial backgrounds, cultural experiences, physical features, socio-economic background, ethnic origins and cognitive abilities. This range of differences indicates the current attributes which teachers believe constitutes the diversity within a group of pupils.

This diversity has been managed in a number of ways, described in the literature as differentiation. The term is also applied adjectivally as in a differentiated curriculum or differentiated schooling.

1.3 Foci of Differentiation

The term foci of differentiation is used within the study to provide a framework within which to examine particular aspects of differentiation as an educational phenomenon. The phenomenon is diversity, in and between pupils, and the foci described below are an to attempt to order the literature which uses differentiation as a term concerned with diversity. The term foci includes an interlinking notion. Though the study concentrates upon pedagogy, the author is aware of overlap between the foci presented.

The four foci of differentiation are:

1. psychological: to describe a specific cognitive function;
2. organisational: in terms of grouping pupils in schools or within them;
3. curricular: in relation to the content of the curriculum provided;
4. pedagogic: to encompass aspects of teaching and learning.

These four foci are discussed in detail within the review of literature.

The study concentrates upon the fourth focus which has a common strand; the notion of match between teaching and learning. Within this focus the term has traditionally been used with differing emphases and little consensus as to its definition.

The need to provide some clarity regarding differentiation, by providing these foci, is important. It is often assumed by teachers and others in education that there is a common understanding of what differentiation is, how it can be achieved, and what obstacles face teachers in attempting to differentiate. This assumption is questionable. Whilst reference is made to the process of differentiating there is seldom a clear definition and, even less often, agreement as to what constitutes differentiation. Even within a pedagogic focus the advice given to teachers on how to achieve differentiation varies from the simplistic: to vary the input, task or outcomes of lessons; to a more heterogeneous need to re-examine what is meant by teaching and learning.

1.4 What is differentiation?

Differentiation became prominent in educational literature during the late nineteen seventies and early eighties in educational debates covering two areas of educational provision: a differentiated curriculum; and the placement of pupils in different forms of schooling or groupings within a school.

The roots of the discussion on the placement of pupils lie in the development of state education alongside the continuing public school provision within the United Kingdom (Chitty 1989). This debate has also taken place in relation to the placement of pupils with special educational needs in special schools and units (Norwich 1990, Ainscow 1991). The term gained official status with its widespread use in official documents, for example National Curriculum Council (1989a, 1989b), OfSTED (1992b). Issues of inclusivity and

segregation form part of this debate which widens in more recent literature to include grant-maintained schools and city technology colleges. This latter debate has been seen (Chitty 1993) as a potential regression to the tripartite system of differentiated schooling which preceded the comprehensive system.

During the 1980s the term came to be used more frequently with a focus on pedagogy. OfSTED (1992b) used it in the first version of the Framework of Inspection. Later versions did not use the term, but the concept of pedagogic differentiation was subsumed into the qualities for good teaching (OfSTED 1995b). The notion remains that the ability to match teaching to children's learning is part of a good teacher's pedagogic skill.

1.5 The Author's Definition

This author places differentiation within the pedagogic focus:

> Differentiation is the process whereby teachers meet the need for progress through the curriculum by selecting appropriate teaching methods to match an individual child's learning strategies, within a group situation.
>
> (Visser, 1993a p.15)

1.6 Issues in relation to Differentiation

Research on differentiation as a pedagogic skill has concentrated mainly on the upper primary sector of education (Bearne 1996, Simpson 1989, Simpson et al 1989). There is little research data relating to secondary school teachers' understanding of the concept or how it impinges on their practice. There is also a paucity of evidence as to why there is a lack of

pedagogic differentiation. The indications are that pedagogic differentiation is more honoured in the breach than in actuality.

Arising from the author's central concern, how to improve teaching and learning in secondary schools, there are four questions which are interlinked and interwoven. For the purpose of this study, their separation is an artificial construct in order to examine the different facets of the current lack of differentiation in schools and how this might be addressed in the future.

The first question:

> How do teachers acknowledge pupil diversity within a common curriculum framework?

Schools can address the organisational and pedagogical factors of diversity by differentiating through streaming, setting or banding. The extent to which teachers match their teaching to the learning strategies their pupils employ is not always clear. Or is it that schools and teachers see differentiation as being achieved once pupils have been grouped by ability?

Rozenholtz (1980) and Rosenholtz and Rosenholtz (1981) argued that how teachers organised their class reflects their understanding of ability and reinforces the tendency to teach to a perceived average. It has been argued by Gerber and Semmel (1985) that teachers see this as a dichotomy between 'active engagement' and 'tolerance'. In other words, teachers take decisions with regard to the range of diversity in pupils where their teaching

style creates tensions between meeting individual needs and raising the mean achievement of the group. They tend to do the latter, leading to 'teaching to the most average, the largest sub-group' and being less tolerant of the range of diverse needs in the group as a whole.

The second question:

How are secondary teachers differentiating?

Evidence from over fifty staff development days in secondary schools taken by the author in the period 1992 - 1997, (see appendix one) indicate that secondary teachers and their schools are becoming more aware of the need to examine how they teach and how pupils learn. This evidence and research evidence, (for example, Simpson and Ure 1993) suggest that where teachers do attempt to accommodate pupil differences it is largely by giving out tasks at three fairly crude levels, sometimes referred to as the 'three worksheet technique'. Alternatively they differentiate by allowing for a range of outcomes, for example, the number of questions answered, or the length of a 'piece of work' deemed acceptable by an individual pupil. However, this evidence is not substantive nor conclusive. These ways of differentiating and others are discussed further, later in this study.

The third question:

What factors affect the level of differentiation practised by secondary teachers?

This question leads to two particular, possible avenues of enquiry. The first is linked to the personal professional skills of the teacher to differentiate. Here the emphasis is upon

exploring the confidence and competence that the teacher has in his or her capacity to differentiate. This requires some assessment of the teacher's experience, initial teacher training, and staff development programme.

The second avenue is the extent to which teachers feel that the context in which they teach constrains their ability to differentiate. There are two sides to the notion of context in this instance: that of subject and the school milieu.

The fourth question:

> To what extent is differentiation bound by teachers' perception of the context of teaching and learning teachers find themselves in?

Each of these questions breaks down into a number of related issues addressed within this study. These sub-areas have overlap since, as indicated earlier, the delineation of questions and themes whilst capable of being separately written down are often in reality very closely interwoven.

The quality of the teaching and learning within schools is an important aspect of current concerns of the Government (DfEE 1997a). This study seeks to show that these four key questions are important as education moves towards the end of the century. Resolving the issues may be inhibited by recent trends to bring whole-class teaching to the fore of the educational debate. It is imperative that the individual needs of pupils and their diverse nature are not lost in this debate. If educational practice is to move forward teachers must be able to meet the needs of the individual whilst teaching groups of pupils.

Within the current government's policies we are moving towards a client based society, and education is central in this theme. If respect for the client is of key importance, there is a need to develop teaching strategies which embody such respect. A change in pedagogy is still required to ensure that the child is not seen as a deficit system, to be fitted into a common curriculum. It is a central task for educational research to explore these developments, and to contribute to the professionalism of teachers. This study sets out to contribute to this debate.

2. A Review of the Literature

2.1 Introduction

This review of the literature on differentiation is divided into three sections. Section One: reviews literature which is largely discursive in nature, examining initially the broad historical perspective of differentiation. Section two goes on to examine differentiation in terms of the four foci: psychological, organisational, curricula, and pedagogic. The third section analyses those published sources which are research based.

The review uses sources which cover all phases of education. Whilst this study concentrates upon an examination of differentiation in relation to the secondary phase, most of the issues raised in any discussion on differentiation have a relevance across all phases of education. Thus, sources were consulted covering work from early years to higher education. Where issues are particular to the secondary phase, or the evidence is based upon the secondary phase, this is explicitly pointed out. Some writers did not always specify a phase in their comments: the implication being that the issue is a general one applicable to all teachers (see for example, Montgomery 1990).

2.2 An Historical Perspective

2.2.1 Reactions to Diversity

Where there are no common education goals for all pupils then others (for example administrators, politicians, psychologists), devise means whereby pupils are selected for the different goals, teachers need not be involved. The 'means' can create criteria for goals based upon perceived aspects of pupils' diversity which highlight particular aspects. These may then be placed in a hierarchy where inevitably some are regarded as more worthy than others.

The need for teachers to engage with the complexities related to diversity is strengthened when common goals are set for those to be educated. Pupils may not have all the necessary attributes to attain the goals, particularly when an approach to teaching is taken which takes little or no account of the learning styles of the pupil, but focuses on teaching as the inculcation of skills, knowledge and concepts. If the goal, for example, is for all pupils to become fluent and accurate readers, and the teaching strategies assume that all pupils have the same prior attainments, will learn at the same rate and in the same manner, the majority of pupils will fail to reach the goal.

A second major factor which educators have to contend with is the universality of the education goals. If education is provided for a selected few then the range of diversity is restricted by the selection process. The narrower the criteria the less diverse the group will be

in relation to the criteria. The more universal (and thus wider the criteria of selection) the provision and entitlement to education the greater the diversity educators face.

Her Majesty's Inspectors of Schools (HMI) have highlighted the dichotomy faced by educators within a society:

> (Educators have) to satisfy two seemingly contradictory requirements. On the one hand .....the broad aims of education which hold good for all pupils, whatever their capabilities, and whatever school they attend. On the other hand ..... (to) allow for differences in abilities and other characteristics of children, even of the same age..... If it is to be effective (education) must allow for differences.
>
> DES (1980) pp1-2 (author's parentheses)

Corno and Snow (1986) in their review of the literature on teachers' adaptations to individual differences point out, that 'systematic procedures' for resolving this dichotomy and achieving a match between teaching and learning have never been clearly established and validated. Professional experience in this regard has gone largely undocumented, a view shared by a number of writers, for example, Clark and Peterson (1986), Torrance (1987), Simpson (1989), Desforges (1985) and Bennett et al (1984).

The challenge of dealing with diversity in education is an age-old one, realised by early educators and commented on through the ages. At its core lies the problem of how to meet individual differences when learners come to teachers in groups. As Ainscow (1991) indicates, for teachers to want to differentiate they need to acknowledge that pupils are

different and have a variety of attributes which impinge on the way that each one will learn. The truism, that children are different, is often explicitly acknowledged by teachers, only to be seldom acted upon (Ainscow 1991, Ashdown, Carpenter and Bovair 1991).

What are these differences? Some differences such as race, gender, physical attributes, social class are considered to be differences which should not impact on teachers' expectations, whilst they may affect teaching strategies. Indeed equal opportunities and race legislation specifically precludes anyone in the community, including schools and teachers, from allowing these differences to matter in any negative manner. Helios II (1996) highlights the need for differentiation if the goal of equality of opportunity for all pupils is to be achieved. Other differences are seen by writers as reasons for differentiating either schooling, the grouping of classes or the teaching approaches adopted. The differences in relation to learning most frequently mentioned on in-service courses to this author (collated from fifty four flipchart sheets) are described in terms of achievement, ability, aptitude, needs, motivation, skills, and IQ. These are themselves, generic terms, seldom defined by the teachers concerned. However, these characteristics are acknowledged by teachers as making for a diverse population in grouping of individual pupils.

2.2.2 Pre 1870 to 1914

According to Corno and Snow (1986) it has long been recognised that success in education relies upon teachers matching their teaching to the individual differences of their learners. They indicate that this view can be found expressed in the writings of the Hebrew Haggadah

on the Passover, a fourth century Chinese treatise on education; the first century De Institutione Oratoria of Quintitian, as well as many other early educational writings.

Within England and Wales, recognition of diversity amongst pupils developed with the introduction of universal education in the late nineteenth century which was limited to pupils aged six to twelve years of age. Some children and young people were excluded from the provision because of medical conditions which restricted the range of diversity in schools. The range of pupils in state schools was also limited since the public schools system remained and 'selected' off those pupils who could pay for private education (Chitty 1989). By the end of the First World War pupils could stay at school until fourteen years but were allowed to have extended periods off school from the age of twelve, if required, for employment at such times as harvest and potato picking. This continued to restrict the range of diversity experienced within state schools.

2.2.3 1914 to 1944

Within England and Wales the issue of teaching and learning styles lacking congruence was highlighted between the world wars, and again immediately after the Second World War, by the Ministry of Education (1944). Diversity was recognised in a publication by the previous Board of Education, which appears to have been issued annually from 1930 onwards. The Ministry urged teachers to make more effort to meet the needs of individual pupils and to recognise the range of differences in their teaching approaches. They pointed out that children learn at different rates, at different times and on different occasions and implied that

these differences are not a unitary, static set of attributes, but are dynamic and malleable, and need to be accommodated by differing teaching styles.

By the inter-war years a system of differentiated schooling had been established to which pupils were assigned according to perceived differences. The elementary school, where most pupils stayed until they left education, was for all. Those who were deemed ineducable by the medical profession were excluded from educational provision. Those whose parents paid for them to attend public schools remained separate from state provision. A few pupils passed scholarships at the age of eleven and were then allowed to attend local grammar schools.

During this period a number of special schools were established by Local Education Authorities (LEAs) although the majority were funded by the voluntary sector and were administratively part of the public school provision. Pupils attended these schools because their differences were perceived as needing different schooling (Cole 1993).

The predominate way of meeting the diversity of pupils in education at this time was by providing differentiated schooling. This resulted in the development of the tripartite system of grammar, secondary modern and technical schools.

2.2.4 1944 to 1970s

Following the second world war the school leaving age was raised to fifteen and with it the tripartite system of education was further developed. Pupils were assessed at the age of

eleven to ascertain which of the three types of secondary school they appeared to best suit. There were also special schools for those who were seen to have one (or more) of the ten categories of handicaps outlined in the Education Act 1944. Education was however still not available for all children and young people within England and Wales. It was not until 1972 that the remaining group of pupils, those deemed at the time to be 'Educationally Sub-Normal (Severe)' were given the entitlement of an education (Cole 1993). Thus, by 1972 the education system within England and Wales had to provide for all children; no pupil could be excluded from receiving an education.

By the 1960s there was a growing dissatisfaction with the tripartite system. It was seen as a barrier to pupils reaching their maximum potential and restricting the goal of an equal society. In other words, it did not effectively meet the needs of the pupil population in schools at that time.

The mid 1960s and early 1970s saw the introduction of comprehensive schools (Hargreaves 1982). Once this became widespread practice, all the children from a given geographical area went to one secondary school. The continuing exception to this was pupils deemed to have educational needs best met within a special school and those attending public schools. The issue for comprehensive schools became one of how to provide for the differences in pupils. This centred on grouping pupils within the comprehensive school and was achieved broadly by establishing mini-tripartite systems by either streaming, setting or banding. This system was not new. Lacy's (1970) study indicated that it was a well entrenched system even within

differentiated schooling. However, with the provision of comprehensive schools the focus for dealing with diversity shifted from *between* schools to *within* schools.

Much of the differentiation achieved during this period was accomplished by senior managers in secondary schools. The grouping of pupils and choosing of courses were managed largely by them. Teachers were left to teach groups of pupils which others had organised. These groups were often perceived by teachers to be virtually homogeneous in nature (Montgomery 1990, Stradling and Saunders 1993).

Following the Plowden Report (1967) on primary education the mid 1970s saw an increasing debate which questioned the value of grouping pupils in secondary schools according to a set of criteria. This, together with the realisation that setting, streaming and banding did not produce homogeneous groups in which pupils could be taught as though they were all the same, led to the exploration of other forms of grouping. The creation of was groups was suggested and carried through by a large number of schools. For the most part, however, this was limited to the first two or three years of secondary schooling, and often not across the entire curriculum. Having classes which were avowedly diverse raised issues regarding appropriate teaching styles.

The issue of how to cope with diversity was brought more sharply to the notice of secondary teachers with this introduction of mixed-ability classes. This did not directly address pupils' learning but concentrated on issues of curriculum content and teaching styles.

Teachers' reactions to mixed-ability were to promote the development of a series of curriculum projects. (For example, see Stenhouse 1993.)

The development of comprehensive schools was paralleled in the development of the curriculum. Whilst there was differentiated schooling there was a differentiated curriculum. Those pupils assigned to grammar schools were given an academic curriculum whilst those at technical schools received a more vocationally based one. Within secondary modern schools the curriculum was very much more haphazard with some attempting to emulate the grammar schools and others following a very *laissez faire* approach with a curriculum which leaned towards basic skills and 'remedial' work (Hargreaves 1967).

Within comprehensive schools groups often followed a common core curriculum based largely upon the academic curriculum of the grammar schools. Lower ability groups followed a watered down version of this curriculum, which was narrower in breadth and balance, often lacking a modern foreign language, the full sciences, with a concentration on literacy and numeracy rather than English literature and Mathematics (Hargreaves 1982). Some pupils were placed in special classes and followed a 'remedial curriculum'; an even narrower version of the mainstream curriculum. Curriculum differentiation thus continued to be practised, indeed it became more refined with the provision of non-examination classes for pupils in their last two years of schooling.

Following the Newsome Report (1963) and the eventual raising of the school leaving age to sixteen in 1974 the range of diversity in the latter stages of secondary schools increased. The reaction was to further differentiate the curriculum, by offering different courses which pupils could 'opt' for in their last two years of schooling. The author was involved with some of these 'non-examination' courses in the mid to late seventies. These developed into a range of alternative curricula culminating in national projects such Technical and Vocational Educational Initiative (TVEI) and the Low Attaining Pupils Project (LAPP). The development of courses for different examinations such as GCSE, City and Guilds, Diploma of Vocational Education, and Associated Examining Board further differentiated the curriculum as well as the outcomes from education.

2.2.5 The 1980s and 1990s

The National Curriculum was established by 1992, and Stradling (1993) saw this as the point at which the issue of pedagogic differentiation came to the forefront. Certainly that period saw the beginning of in-service material devoted to differentiation (Cambridge 1992, Barthorpe and Visser 1991, Wiltshire 1992, Devon 1992, Enfield 1992, Landy 1992, Elliot et al 1992, Tilling 1992). These were attempts by Local Education Authorities and others to give guidance on differentiation as a means of enabling all pupils to access the National Curriculum and to fulfil the requirements of The Education Reform Act (ERA 1988) i.e. to provide a broad, balanced, relevant and differentiated education for all pupils.

Alongside these developments there were several other issues which put pressure on teachers to take more note of individual differences in their teaching. For example schools with similar catchments performing very differently; concern over gifted pupils; issues concerning behaviour; reflective teaching; research on the range of skills, knowledge and understanding that children of the same age have; special educational needs; and the creation of a common National Curriculum.

Schools make a Difference

During the 1980s a growing body of evidence accumulated showing that schools could make a difference to their pupils. Evidence from the studies of Rutter et al (1979), Mortimore et al (1988) and Reynolds (1976) amongst others, showed that schools could not lay poor attainments solely at the door of the pupils who attended them. Part of this evidence indicated that teachers' attitudes to diversity made a difference to pupils' achievements. In particular it was suggested that if pupils were equally valued, and taught in a differentiated manner their achievement was greater than for similar pupils where this was not the case. A report by HMI (HMI 1977) on ten secondary schools seen to be 'better', reinforced this view and went on to make a direct plea for more pedagogic differentiation on the part of teachers.

Meeting the needs of the Gifted Pupils

Alongside an awareness of the needs of pupils with special educational needs came an awareness of the needs of those pupils who were gifted. HMI voiced concern that these pupils' needs were not being met and saw differentiation as one means whereby teachers

could address the issue (HMI 1993). Marjoram (undated), writing around this time, Torrance (1987) and Hollander (1996) argued that differentiation was the key to enabling gifted pupils to reach their potential. Gubbins (1994) follows this up by indicating that gifted pupils do not need a differentiated *curriculum* but differentiated *teaching*. These sources are important in that they have reinforced the view that differentiation is not about meeting the needs of one section of the school population (Visser 1993a), namely those with special educational needs. Rather pedagogic differentiation is relevant in enabling all pupils to achieve access to their curriculum entitlement.

Differentiation and Behaviour

The concern about the perceived levels of disruptive behaviour experienced by teachers and schools began in the 1970s. By the 1980s there was a growth of unit provision for pupils who were disruptive (Visser 1980). This helped to relieve schools of an irksome duty - that of checking not only what they taught but how they taught it (Berger & Mitchell 1978).

Concern regarding the deterioration in behaviour in mainstream schools led to the commissioning of a report (Elton 1989). One of its findings was that where pupils were taught in a differentiated manner behavioural problems were reduced. Lacy (1970) had reached a similar conclusion in his study of a grammar school, although at that time he also argued the need for a differentiated curriculum. This view is supported by Waterhouse (1990).

Simpson (1989) and Simpson et al (1989) argue for differentiation which incorporates appropriate challenges for pupils. They indicate that pupils are somewhat compliant for the most part and will settle to any work reasonably set by the teacher. Children often comply with instructions because that is easier than misbehaving when the work is either a repetition of work they have mastered, or is too hard to understand but can be completed in a mechanistic manner. They argue that whilst the behaviour is compliant, little progression is achieved with teaching methods which fail to challenge. The implication being that compliant behaviour of this nature is as unhelpful to the learning process as is acting out behaviour. What is required is differentiated teaching to make the pupils feel they matter as individuals and can engage in the learning process. It is the nature of the relationship between teacher and taught, mediated by differentiation, which reduces the misbehaviour of pupils (Visser 1993b).

Reflective Teaching

By the late eighties the influence of the American writer Schon (1983, 1987) began to have an impact on educational thinking. His view was that much good practice within the professions was 'knowledge-in-action' and took place within the interaction between professional and client. This knowledge-in-action was held intuitively by good practitioners and was rarely articulated by them. This view was developed within education by writers such as Pollard and Tann (1987, 1993) and Ainscow (1991). Their work looked at the act of teaching and suggested that good teachers possibly reflected in a positive manner on their teaching, developing their knowledge-in-action. This reflection focused upon how they

taught, and how the pupils had learnt during their teaching. In turn this increased their ability to meet the needs of pupils in their classes by matching teaching more closely to pupils' learning. In other words differentiating pedagogically.

Range of understanding, knowledge and skills

The Cockcroft Report (Cockcroft 1982) examined the teaching of mathematics, and was able to show that by the age of eleven, the width of skill, knowledge and understanding displayed could cover a seven year span. HMI (DES 1986) indicated that a similar span would be found in other subjects. TGAT (1988) anticipated a minimal two year spread of ages at any given level of attainment. Fuchs et al (1992) found evidence that within any one year of secondary schooling in the USA there was a five and a half year spread of achievement and ability. This acknowledgement of the wide spread of attainment to be found in groups of pupils further eroded the notion that it was possible to teach any group of pupils as though they were homogeneously at the same stage of skill, understanding or knowledge.

Special Educational Needs

The provision for pupils with Special Educational Needs (SEN) in the 80's and 90's had its roots in The Education Act, 1944 which established categories of needs. It was anticipated that appropriate provision would then follow. The differentiation which occurred to meet those needs was the provision by LEAs of separate schools and units to which pupils were assigned.

The late seventies saw a world-wide awareness of the needs of what was then referred to as the 'handicapped'. In England and Wales this was manifested by the establishment of a committee of enquiry on the education of pupils with SEN in 1974 which reported in 1978 (Warnock 1978).

Among the recommendations made by this committee was the abolition of categories. These were seen as obscuring the individual pupil's needs. The diversity of pupils with 'handicaps' was being veiled by the assignment of a label. Homogeneity of needs within a category was subsumed by educators in their approach to meeting pupils' needs. Warnock (1978) argued that it was important to assess a pupil's special educational needs on an individual basis and provide accordingly. The report also argued that in moving away from categorisation, the education system should consider all pupils as capable of being educated in mainstream schools unless there were specific individual needs which required segregated (different) provision.

Following the Warnock Report (1978) and the subsequent Education Act 1981 a number of integrative projects were instituted. The arrival of pupils with a statement of SEN in comprehensive schools, together with the notion that 18% of pupils with special educational needs (who had no statement) had always been in mainstream schools, brought a greater awareness of the diversity of pupils to administrators, schools and teachers. This was reinforced when the final group of pupils excluded from education (those with severe and profound learning difficulties) were brought into compulsory education. Though the overall

percentage of 20% children having SEN was criticised (Gipps et al. 1986) there was widespread acknowledgement that a substantial proportion of children were not achieving their potential within the education system.

The integration projects brought about a more flexible approach to the provision for pupils with special educational needs. Much of this provided for integration in location only, rather than any full inclusion in the life and curriculum of the school (Hegarty et al 1982, Booth and Coulby 1987). Where some pupils had been previously placed in special schools, they were now placed in units attached to mainstream schools. Differentiation for pupils with special educational needs remained largely by placement in a separate special school, unit or class (Visser 1993b).

A Common Curriculum

By the end of the eighties, as discussed earlier, the curriculum was differentiated for different groups of pupils and the outcomes and purposes of education were differentiated for pupils by the education system which had developed.

Warnock (1978) established the principle that the education provided for pupils should be the same for all pupils.

> "The purpose of education for all pupils is the same, the goals are the same. But the help that individual children need in progressing towards them will be different the goal of education is the same for all pupils it is the means of achieving it"
>
> Para 1.4.

The emphasis was upon a common curriculum to which all pupils were entitled. The Report advocated that such a curriculum may need adaptation, arguing that bodies such as the Schools' Council should have a separate section to deal with special educational needs in the curriculum. The report overlooked the need to address the issue of why pupils might be failing in terms of the teaching they received (Visser 1993b), but did lay the foundations for the development of an "entitlement curriculum". This idea formed the basis of the integration movement within England and Wales. It marked the beginning of a major shift in emphasis and challenge for educational practice to include all pupils within mainstream education.

The Education Reform Act 1988 (ERA) brought in a legal requirement that pupils were to follow a common National Curriculum. The introduction of a centralised curriculum which was part of a broad and balanced curriculum for all pupils, shifted the issue of diversity away from the curriculum. Now, not only were the goals of education the same for all pupils (Warnock 1978) so was the curriculum. Though ERA allowed for some modifications and disapplications to the National Curriculum, within sections 4, 17, 18, and 19, these were to be invoked rarely (NCC 1989a). If invoked, pupils retained their entitlement to a broad and balanced curriculum (Visser 1991).

During the school year 1990-91, HMI conducted a survey to establish the impact of the National Curriculum on pupils with SEN (HMI 1992b). Overall, 241 special, primary and secondary schools were visited. In no school did they find any modifications or

disapplications. However, pupils in 50% of special schools were still not receiving a satisfactory broad and balanced curriculum which included the National Curriculum. The findings, nevertheless, indicated that teachers were 'strongly committed' to the notion of a National Curriculum to include all pupils with SEN. The failure to implement the National Curriculum was, therefore, not so much a lack of will by teachers, but was seen as the inadequacy of training, lack of curriculum development knowledge, poor resources and unsuitable accommodation. In addition, the difficulties in planning across four key stages with limited staffing levels compounded the problem. In mainstream schools at key stages 3 and 4, there were also difficulties in providing INSET directly related to SEN issues. Assessment was weak. Therefore, teachers were planning lessons without a secure knowledge of pupils' performance levels.

An entitlement to a broad and balanced curriculum which included the National Curriculum removed the possibility of 'alternative' curricula or the withdrawal of pupils from certain subjects within the curriculum. Thus teachers were, and continue to be faced, with the challenge of how to enable all pupils to access their entitlement. The responsibility for dealing with diversity shifted from the senior managers and administrators, providing separate schooling at the secondary level, to teachers seeking to teach their National Curriculum subject to all pupils.

However, the Dearing Review (Dearing 1994) has restricted this common entitlement to eighty per cent of the secondary school timetable and has re-introduced some choice to the

curriculum followed by pupils in years ten and eleven. These can be seen, on the one hand, as giving schools some flexibility in the curriculum in order to meet pupil's diverse needs. On the other, it can be argued the reforms weaken all pupils' entitlement to a common curriculum and re-introduce the possibility of an alternative curriculum for some pupils.

2.2.6 Issues in the 1990s

The historical progression described above, established by the mid 1990s that differentiation was to be seen as the responsibility of the classroom teacher. This position is underpinned by OfSTED (1992) which made differentiation part of the assessment of the quality of teaching (Weston 1996).

The progression from differentiation by schooling to differentiation as a match between teaching and learning has not gone unchallenged.

Chitty (1989, 1993) maintains that differentiation is seen by politicians of all persuasions as being best achieved by the provision of separate schooling. He argues that the political solution for diversity amongst the population is to differentiate the provision rather than the process of education. This is to be achieved either by providing 'specialist' schools or 'specialist' curricula for particular groups of pupils. The 1990s has seen: the retention within some LEAs of Grammar Schools: grant maintained schools being allowed to select a percentage of their intake; technology colleges to have a particular IT approach and focus to

the curriculum; and the retention of special schools and units. Outside the state sector, public independent schools continue to thrive.

The Dearing Review (Dearing, 1994) provided a more manageable, common curriculum for all pupils, and particularly enabled a greater application of the National Curriculum to take account of individual pupils' differences. Particularly relevant were the introduction of level descriptions and the facility for pupils to work outside their chronological key stage. The reduction of National Curriculum requirements at key stage 4 further enabled schools to plan the 14-16 year old curriculum with more relevance, allowing up to 40% of taught time to be used at the discretion of the school. The professional concerns which expressed support for an entitlement curriculum but campaigned for a greater flexibility to meet the issues of relevance, had been acted upon.

The Dearing (1994) review of the National Curriculum can be interpreted, particularly in relation to the last two years of secondary education, at best as detracting from a common curriculum for all; at worst as reintroducing a differentiated curriculum. For sum a view subscribed to by Chitty (1993) and seen as important by Newton (1994). The latter argues that a differentiated, less centralised curriculum is required for lower attaining pupils in their last two years of education if they are not to be alienated from school. He argues his case based upon the less centralised curricula of Germany and the Netherlands where a tripartite form of educational provision is still in place. He neglects to examine the case for the quality of teaching as an answer to the potential alienation of pupils. Earlier Merry (1991) makes a

similar case but indicates that it is the pressure on meeting attainment targets (pre-Dearing) that reduces the amount of pedagogic differentiation by teachers, as they concentrate on getting pupils at each level 'over hurdles'.

A need for separate schooling for certain groups of pupils with special educational needs is put forward by Norwich (1990). He argues strongly for differentiated schooling to meet their needs believing that the nature of those needs is so different from 'normal pupils' that they can only be met by provision in separate schools. Ainscow (1991, 1993) argues that differentiation should not be seen in these terms but should be exclusively centred upon the child, meeting individual needs by more skilful teaching. Earlier Swann (1988) had argued that differentiated schooling was detrimental to children's educational progress. Like Ainscow (1993) he argued that differentiation should be linked to teaching rather than placement.

Recent guidance on the assessment and provision for pupils with special educational needs has the potential for focusing differentiation back to being only about meeting the needs of particular groups of pupils: those with special educational needs The advice given in the early stages of assessment and provision is that these pupils need a 'more differentiated' approach (COP 1994). The implication being that there are levels of differentiation which need to be applied to these pupils, rather than differentiation being applicable to the teaching of all pupils.

2.3 Differentiation: a Confused Concept

Differentiation does not have a widely agreed definition and, as a consequence, teachers find the term confusing. Duffy (1990) points out that whilst the issue has been raised and debated, little light has been thrown on what it is and how it is to be achieved. Dyson (1993) describes it as a much abused term, 'much used, rarely explained, or analysed'. Daniels (1993b) expresses a similar point and goes on to make a plea for a more consistent approach of its use by educators. The Association of Science Educators (ASE 1991) describe it as the 'educational buzz word' of the nineties and also point out that its meaning is not always as clear as is thought by those using it. There appears to be no coherent policy or consistent view between the various government bodies. They appear not to understand the practical and logistical problems in operationalising differentiation (Torrance 1987).

The problems that writers have in using the term differentiation is one this study returns to when examining the issue of 'match' and consistency of concept later in the review. The picture, overall, is one of a widespread use of the word in relation to aspects of diversity, but as Copeland et al (1993) point out, there a general concern about its place within education. There is no definitive elucidation of what the term encompasses. The four foci which follow are an attempt to provide a framework within which issues linked to differentiation in practice can be discussed.

2.3.1 Perspectives of Differentiation

The dictionary definition of differentiation (Oxford 1976) gives three possible explanations for the term. The first, is to make different; the second, to acknowledge these differences; the

third, is a precise mathematical definition. Its use in educational literature has more to do with the former two, rather than the empirical precision of the third.

This section continues with an examination of the variety of ways in which the term differentiation is used in the literature. There follows a brief exploration of its technical use by psychologists, the section then goes on to explore its organisational use. Within this focus the emphasis is upon differences between children in order to group them statistically either in class groups, or separate provision altogether. The association of differentiation with notions of an adapted or alternative curriculum are then explored. The next part of the section examines differentiation from a pedagogic focus, grouping definitions around the issue of match between teaching and learning, and those definitions with an emphasis either upon teachers or upon individual children. An example is given of the range of definitions, even within this perspective, and their comparative inconsistencies.

In examining the literature, it is apparent that few writers give definitions of differentiation in an overt manner. Most describe it within parameters which are themselves open to various interpretations, such as mixed ability teaching, streaming, banding, teaching strategies and learning styles. Some authors subsume a definition in the discussion they put forward and it has been necessary to deduce their definition from the line of argument pursued. For many authors its meaning seems to be so self apparent that they use the term without acknowledging that there could be some confusion over its meaning. Inevitably some definitions do not sit wholly or solely within any one of the following foci. Several authors

use the term differently within the course of the same text (see for example, Beveridge 1993, Swann 1988, Norwich 1990, Stradling and Saunders, 1993) therefore giving cause for even greater confusion.

Variation in Use

The term differentiation, as shown earlier, is widely used within education. Entwistle (1990), and Marjoram (undated) indicated that the meaning of the term is not self-evident and is open to divergent interpretation and indicated that, historically, it has been used by differing parts of the educational system at different times. Broadly, its meaning has evolved from an emphasis upon differences between children, to a focus upon the differences that an individual child might display in learning. However, the breadth of meaning gives the term a very wide base of uses. The historical development of education has left in its trail a number of different perspectives and understandings.

Dilemmas in Use

Peter (1992) edited a special edition of the British Journal of Special Education, and commissioned ten articles on the subject of differentiation, asking each author to give their definition. The result is ten very different conceptions of what differentiation is about. These range from a relation to equal opportunities, through to a variety of professional practices within the classroom, to cost effectiveness issues in learning. This variation of meaning leaves teachers and others with being asked to perform a task, i.e. to differentiate, about which they have no definitive guidance as to what it is or how it can be achieved. Collins

(1991) argues that LEA advisors and inspectors further confuse teachers because these officers lack any consistency in their use of the term.

Dilemmas in Practice

Duffy (1990) believes that differentiation is about meeting individual needs within groups of very diverse pupils. The problem from his viewpoint is the lack of guidance for teachers as to how this can be achieved. He feels that teachers have been left to sort out the problems with no consistent guidance from DfEE, HMI or those with teacher training responsibilities and believes that the confusion over the meaning of differentiation amongst teachers is compounded by this lack of clarity in official guidance documents. The National Curriculum Council also found this to be an issue in their poll of teachers to ascertain their views on differentiation (NCC 1992a).

Common Strands

Despite this background of a wide and diffuse application of the word there are some common underlying strands. Stradling and Saunders (1993) support the view that it is concerned with differences in pupils. That differentiation is the method of dealing with diversity within the classroom and is the responsibility of teachers. HMI (1990a) also relates differentiation to how all pupils' educational needs are met and thus it should be the concern of all teachers. Some writers do acknowledge the range of possible interpretations that have been associated with differentiation, (for example Stradling and Saunders 1993) who point to a lack of universal understanding or definition of the term. They indicate that teachers and

schools could be seen to differentiate in one of three ways: by grouping according to some criteria of ability; by providing alternative curricula for children; or by matching learning to teaching strategies. A number of authors also show that the term has very largely come to focus upon a match between learning and teaching styles.

2.3.2 Psychological Focus

Differentiation has been used with some precision by some psychologists. Solity and Bull (1987), coming from a behaviourist view point, in their research used it to refer to the ability of pupils to generalise, in the sense of perceiving differences and similarities. They use the term to describe in behavioural terms, the way pupils are able to go from the particular to the general and vice versa. Kirk et al (1993) and Feldman (1990) use the term to describe, an assessment process to identify 'a typical behaviour' which differentiates the pupil from pupils with similar disabilities. These writers are located within the psycholinguistic perspective of psychology.

2.3.3 Organisational Focus

Those definitions placed within the organisational focus have, as their perspective, differentiation between children for the purpose of separating them into groups. This perspective of differentiation leads to administrative systems designed to cope with diversity by reducing its range along given criteria. The motives behind the approach were genuine attempts to meet perceived needs. However, they were largely attempts to fit individuals to systems of provision rather than attempting any sort of pedagogic match. Within this

application of the word, the emphasis is upon the process of sorting pupils into groups (Thompson and Barton 1992). It differs from grouping pupils in a pedagogic sense in two ways. First, it is generally done with groups of pupils larger than a class unit and is thus not under the direct control of an individual teacher. Secondly, these groupings once arrived at tend to be static and inflexible with no movement, or very little movement, between the groups.

These groupings are either within schools in streams, sets, bands or by withdrawal from a lesson; and through separate provision altogether such as in special schools, units, and city technology colleges. The decisions regarding allocation to a group are made largely by administrators and senior teachers within LEAs and schools. Grouping within classes which is under the direct control of individual class teachers is not included in this perspective.

The acknowledgement of diversity and an understanding of the perception diversity is of particular importance within the area of behaviour. Elton (1989) showed that there was some unanimity amongst teachers as to what constituted the limits of diversity of behaviour which could be tolerated. However both Elton (1989) and more recent research (McClean) has shown that teachers' narrow range of diverse behaviour deemed acceptable is responsible for the greater number of pupils being identified as having behaviour difficulties within a school. The indications are that these pupils are often excluded (Hayden 1997, Parsons et al 1995) resulting in them receiving differentiated schooling. The author makes no value judgement in this study on this phenomenon the point at issue here is the need for teachers to

acknowledge to themselves the values and beliefs they espouse which lead to this form of differentiation between pupils.

Grouping within schools

Teachers, according to McIntrye (1993), see differentiation as the grouping of pupils and points out the wide variety of groupings that can occur. He argues that educators and administrators differentiate between pupils to form groups for various purposes, ranging from behavioural management strategies to the setting of particular tasks in lessons. The main purpose is to obtain groups which are manageable either in behavioural terms or according to notions of ability. The rigidity and artificiality that frequently pertain to this form of grouping is commented upon by McIntrye and Postlewaite (1989). They see both as occurring because of the tendency of educators to apply labels to groups which then attract stereotypical responses from teachers. This negates differences in pupils and thus the need for differentiated teaching. Blamires (1996) concurs with this view, particularly arguing that such grouping usually becomes static, with little movement of pupils between groups.

Lacy (1970) describes differentiation as the separation and ranking of pupils according to a 'multiple set of criteria'. A normal process, he indicates, of teaching in the late sixties. In particular he studied the effects of differentiating pupils into streams. He concludes that having differentiated to this point teachers proceeded to teach as though all the pupils in that stream were of the same unitary ability. Postlewaite (1993) points to the effect of labelling

and its consequent stereotyping whenever such groups are constructed. The tendency then is to teach to the characteristics which the teacher ascribes to that stereotype.

Lacy (1970) points out that in fact the range of abilities within each stream remains wide. In the middle streams it was particularly large, but even here there appeared to be no acknowledgement of the fact in the teaching styles adopted. Whole class teaching based upon some notion of the average ability in the class was the predominant approach to teaching pupils grouped in this manner. According to Jonassen and Grabowski (1993) Swedish researchers found that teachers tended to pick out a small cluster of pupils within a class and to base their teaching on them regardless of the other pupils' abilities.

This lack of acknowledgement is not confined to these forms of grouping pupils. Grouping pupils by mixed-ability is often seen as making differentiated teaching more necessary. However, as Kerry (1982) points out, 'mixed-ability classes are more common than mixed-ability teaching'. Mixed-ability classes, he found, were also taught to some notion of the middle of the perceived range of ability. Differences in terms of learning were largely ignored. McIntrye (1993) gives a similar view. He feels that teachers see their classes in terms of a general ability which become a stereotypical ability for all the pupils within the group.

Mixed ability grouping of pupils has been discussed earlier. Much of the reasoning for mixed-ability groups was either pragmatic, there were too few pupils entering the school to

form ability groups of class-size, or political/philosophical arguments based on the premise that pupils should be mixed regardless of abilities. Some of the research into mixed ability highlighted some issues which impinge upon the match of teaching and learning: pedagogic differentiation.

Reid et al (1987) found that teaching mixed ability groups was more difficult than groups which were based upon ability. First because it limits the amount of whole class teaching which could be undertaken. Secondly because its required, he maintains a greater range of teaching strategies. Mixed-ability teaching he argues means that topics which require importation in a structured logical manner are less easy to impart to groups of pupils where the knowledge, skills and understanding is widely diverse. Kelly (1974) whilst acknowledging this as an issue, indicates that greater knowledge of the pupils, in particular, their cognitive abilities should enable teachers to set a variety of tasks around a given topic to meet individual learning needs. Ingleson (1982) concurs with this view.

Dean (1996) argues that mixed ability teaching is not found very widely in secondary education. Delamont and Galton (1986) and Galton and Willcocks (1983) agree providing evidence from the ORACLE project to substantiate this. In particular they found little mixed ability after year seven and that restricted to areas such as English, the humanities and arts. They argue that this is because teachers prefer to group pupils by ability thus cutting down upon the range of diversity they have in the classes they teach. As Ingleson (1982) points out mixed ability requires greater recognition by teachers of pupil diversity and thus makes more

demands on their time and the range of teaching skills they need to bring to bear (see also Sands and Kerry 1982 who concur with this view).

When faced with mixed ability classes, Kerry (1982) points out that teachers pitched their lesson content to 'just below the middle of the ability range' within the class.

Writers drawing upon data within the ORACLE project whilst supporting the view that mixed ability teaching is more difficult also point to the issue of pupils' morale as important to pupils achievements (Delamont and Galton 1986, Galton and Willcocks 1983, and Galton, Simon and Croll, 1980). Pupil diversity within this project was seen more in terms of cognitive abilities (intelligence) and personality than in terms of learning styles.

This form of grouping, particularly where children are put into sets or streams rather than bands, is seen as inflexible and static. Once placed in a group, pupils are seldom moved out. Such movement that does occur tends to be in a downward direction. Upward movement is difficult not least because the range of work covered in higher sets has been greater. Thus, the lower set pupil moving up has a catching up process to endure. This form of grouping is frequently seen in an hierarchical manner which accrues status for the higher groups. As Pollard and Tann (1993) indicate, streaming and setting provide for pupil alienation as one group is ranged against another. A pupil's status and value within the school is assigned according to which group he or she is in and pupils become resentful of being excluded from what they perceive as the higher status work being given to the top sets.

Landy (1992) argues that it is the flexibility shown by the school in its groupings of pupils which is important in acknowledging the diversity of pupils. By doing so the emphasis is upon the individual within the group rather than the group itself. She indicates this is where differentiation should focus.

In an interim report on the National Curriculum, Dearing (1994) acknowledges that teachers face a range of 'aptitudes for learning'. He implies that one solution to this issue would be to differentiate pupils into groups that reflect the levels that they achieve. This is akin to a system of progression through schooling which prevails in a number of other countries where a pupil not achieving acceptable end of year grades is required to do that year over again (Merry 1991).

Simpson (1989) remarks in her study of differentiation that teachers see differentiation as synonymous with grouping children by the antithesis of streaming, namely grouping pupils by 'mixed ability'. She indicates that for teachers of primary-age pupils differentiation only became an issue when the notion of mixed ability was introduced following the Plowden Report. McManus and McManus (1992) support this view and see differentiation and the demands of teaching mixed ability groups of pupils as being overlapping concepts. They argue that when teaching mixed ability groups the task of ensuring accessibility for all pupils in the group to the content of the curriculum becomes a priority issue for the teacher, requiring them to differentiate.

Grouping by School

In relation to separate schooling, differentiation is used when discussing the segregation, integration, and/or inclusion of those pupils for whom their special educational needs require a statement. It has also been used, largely by Chitty (1989, 1993), when discussing the creation of grant maintained schools and city technology colleges and what he sees as the potential regression to a tripartite system of education for secondary pupils.

Chitty (1989) indicates that differentiation as used by a number of politicians is about the separation of schools to focus upon different aspects of education. He indicates that politicians would like some schools to specialise in particular subjects. These specialisms are to be seen in terms of broad areas of the curriculum and linked to notions of vocationalization. He describes this as differentiation. Beside these specialist schools there are also the grant maintained schools. The creation of grant maintained schools and city technology colleges, he maintains, has the potential, once they are more widespread, of re-introducing differentiated schooling not too dissimilar from the tripartite system in existence before comprehensive schools. He bases his views upon a close analysis of political speeches, in particular those of the several Secretaries of State for Education for England over the past ten years.

It must be borne in mind that for the whole of the period of comprehensive schooling in various LEAs (e.g. Kent) differentiated schooling has continued to exist. These Authorities have continued to maintain grammar schools to which pupils have been admitted after

proceeding through a selection process. Public schools have also continued to offer differentiated schooling for those parents choosing to pay directly for the education of their children. As well as these forms of differentiated schooling, the provision for children whose special educational needs require a statement has also continued to be largely in the form of separate special schooling though recent figures (OfSTED 1996) indicate that 56% of pupils with a statement of SEN are being educated within mainstream.

The term differentiation has been associated with special schools as a separate form of provision. Depending upon their viewpoint, writers see differentiation as the provision of separate non-inclusive education (Housden 1993, Tye Green 1991, Norwich 1990), because the needs of these pupils are not met when they are included in mainstream schools. Ainscow (1991), Swann (1988), Bell (1989), and Collins (1991) disagree with this viewpoint, arguing that differentiation is necessary when these pupils are included in mainstream schools. Both lines of argument are derived from an understanding of pupils' needs but take opposing views as to how these needs can be best met.

On the one hand there is the view, powerfully espoused by Norwich (1990), that the uniqueness and degree of specificity of these pupils' diverse needs can only be met by specialist provision in a centralised location. This inevitably means the maintenance of differentiated schooling. A few special schools (see for example, Tye Green 1991) believed that the National Curriculum was inappropriate in meeting these pupils' needs, and argued

for the retention of separate provision, and with it the ability to provide a differentiated curriculum.

Carrier (1984) sees the provision of special schools as differentiating in order that the state can allocate resources appropriately. He argues that whilst there may be effective administrative and financial reasons for centralising resources within special schools, the effect of providing in this manner is to have resourced-based, rather than needs-led provision. He argues that special school provision consequently attracts a negative value. The pupils' placement in the education system is based upon society's view of what sort of education is best suited to them because of the resources they need and since the resources have been centralised in special schools that is where they are placed. Thus they are differentiated by resource needs. A wider distribution of resources and their accessibility within mainstream schools would create equality of opportunity for all pupils within a community. Pupils would not need to be differentiated to the same extent by their *resource* needs. In this he agrees with Barton and Tomlinson (1989) and Tomlinson (1987) who argue that this form of differentiation is based upon who holds power within a society. They argue that differentiation in schooling takes place because political decisions on the distribution of resources are supported by those that Barton and Tomlinson (1984) perceive as gaining 'power' with such provision.

This line of thought echoes with that of Chitty (1989, 1993) discussed earlier. Differentiation by grouping or school can been seen as the 'typification of the child' (Carrier 1984) in order to maintain some form of status quo: generally one of social or ruling class.

Swann (1988) argues that the need to differentiate arises because of integrating and including pupils with special educational needs in mainstream schools. He and others (Ainscow, 1991; 1993; Montgomery, 1990; Harland, Stradling and Dias, 1988) suggest that separate schooling fails to meet the needs of pupils because it does not allow them the widest choice of development. The evidence (HMI 1984, 1992b) on special schools as generally providing a narrow curriculum choice, poor levels of expectation, and poor standards supports this view. By implication these writers also suggest that without these pupils in mainstream schools teachers continue to fail to address the need to differentiate their teaching styles. If it remains possible to describe pupils as being unsuited to a particular educational experience within a mainstream setting, the need to address teaching styles to enable access to the curriculum is lessened.

Differentiated schooling becomes discriminatory in nature. Separate schooling which involves the assessment of pupils against criteria is damaging, particularly when those criteria are not explicitly articulated and alter with time and circumstances, often at the whim of politicians at local and national level.

2.3.4 Curriculum Focus

A *differentiated curriculum* suggests a different curriculum for different groups of pupils who have been grouped according to a set of criteria. *Curriculum differentiation* suggests a common curriculum for all which is mediated in a differentiated manner. The latter relates to pedagogy (Blamires 1996) whilst the former is the subject of this section.

In this study a differentiated curriculum covers three aspects of the curriculum: adaptation, alternatives, and outcomes. One view of the curriculum is regarded as meaning the body of knowledge, skills and understandings upon which teachers base their teaching i.e. the content. Varying the curriculum offered to individuals, by adaptation or by the provision of alternatives, is a means by which teachers have coped with pupil diversity. In this section curriculum differentiation includes 'outcomes' which the literature indicates is the most frequently observed form of differentiation. There are three other facets of the term curriculum which are also linked to differentiation: the hidden curriculum, curriculum relevance, and extra curricular activities. These three facets of curriculum impact on aspects of pedagogic differentiation. They are outlined below but their implications and their interweave with pedagogic differentiation is discussed later.

The Hidden Curriculum

The hidden curriculum (Sebba et al 1993) relates to the affective aspects of a teacher's teaching, and the way in which a school manages itself on a daily basis. The individual teacher's and the school's attitudes, beliefs, and values towards pupils are revealed by the

manner in which they address, approach and interact with them. This is important in terms of the extent to which teachers acknowledge diversity and wish to work with it, rather than diminish it, by the manner in which they teach.

An aspect of the hidden curriculum lies in the nature of the curriculum itself. Where pupils are offered a choice of subjects in secondary education within a curriculum, certain choices may carry greater status than others. If the pupil is entirely free to choose which subjects he or she is to take this may not be of significance. However, in most instances this is not the case. At best the choice is one guided by the staff within a school. The guidance being provided is based upon teachers' perceptions of the abilities, aptitudes and needs of the pupils concerned. At worst there is no choice as pupils are directed to the subjects they are to be allowed to take, or which the school has the capability to offer.

The potential efficacy of this form of differentiated curriculum lies in the ability of schools and teachers to accurately assess pupils' abilities, aptitudes, and needs and to provide the subject choices within the curriculum in a 'value neutral' manner. The evidence is, that this does not happen (Hargreaves 1982). Some young people are thus disadvantaged and their diversity constrained by being fitted into the teacher's perceptions of what they could, or should, do.

Curriculum Relevance

The second issue relates to relevance. Is the curriculum being offered the right one for the pupils being taught? This is of particular importance when the curriculum has been centralised and made an entitlement for all. With the introduction of the National Curriculum the question of the relevance of the curriculum, in terms of its content, has to some extent been taken out of the hands of teachers and schools. With certain, very few, exceptions all pupils must follow the National Curriculum. This study does not seek to argue for or against the relevance of the current National Curriculum.

The issue of relevance impacts on differentiation in terms of motivation. Its importance lies in the motivating of pupils: itself an important hurdle in relation to why a pupil should learn. It thus has an effect on the affective aspects of learning and teaching.

Extra-curricular Activities

A third issue relates to extra-curricular activities within a school, which take place largely in a voluntary capacity, outside the formal timetable of the curriculum as described above. They range from sporting and creative clubs to opportunities to follow up work covered within the formal curriculum. The Education Act 1993 requires schools to ensure that extra-curricular activities are open to all pupils. Pupils cannot be excluded because of particular characteristics or attributes such as having a special educational need. As these activities are open to all pupils, the challenge becomes one of enabling access for all to the activity concerned. Whilst this may require the adaptation of physical features, or provision of

funding, or perhaps arranging appropriate transport, it could also require those leading the activity to examine how their instruction or teaching enables access to occur.

Alternative curricula as differentiation

Before the introduction of the National Curriculum (ERA 1988) the curriculum was largely in the hands of individual schools and their teachers. The only subject prescribed for all pupils was Religious Education (Education Act 1944). In practice, comprehensive schools followed a curriculum which was based upon the academic curriculum of the previous grammar schools (Joseph 1984). These in turn had based the curriculum upon what was being offered by the public schools sector. This curriculum was largely top-down in orientation based upon what the universities required potential undergraduates to know upon entrance to their courses (Cockcroft 1982). Where pupils were perceived as being unable to follow this curriculum, adaptations were made or they chose alternative subjects.

The debate regarding the nature of the curriculum in the mid 1980s established a general consensus that what had evolved as the curriculum for the majority of pupils was inappropriate (Joseph 1984, HMI 1985, Hargreaves 1982). The line of argument pursued concentrated upon the content of the curriculum as being right or wrong in meeting the needs of pupils in school. Pupils' diversity could be met, it was argued, by having a more diverse curriculum within which pupils chose, or were directed, according to criteria decided by their teachers.

Pupils went through their secondary schooling being presented with curriculum options. These ranged from choosing one or two modern foreign languages in year eight to having to choose which GCSE subjects they would be following in their last two years of compulsory schooling. The degree to which there was genuine pupil choice is questionable (Smith 1981). Those pupils with special educational needs were often placed in special classes and the curriculum they received was restricted from the start of their secondary schooling. They were frequently excluded from taking a modern foreign language. By putting some subjects together such as the three sciences into a 'general' science course their curriculum was further narrowed.

Harland, et al (1988) argued that there was an added dimension to diversity for pupils in the last part of their schooling which related to their aspirations upon leaving school and entering employment or further training. A premise for this view is that a proportion of these young people would be attempting to gain some form of employment which required particular skills. A further premise was that the largely academic nature of the curriculum at this stage was inappropriate for some of the pupils. There was also the view that if pupils had by this stage not gained basic skills in areas such as language and mathematics, they needed to spend more time gaining these before they left school. Newton (1994) supports this line of argument, particularly for those pupils whom he sees as being less able and thus unable, in his view, to benefit from a common curriculum available to all pupils.

Alternative curricula for these pupils had been previously suggested by the Newsome Report (1963) and there was a proliferation of them at the time of the raising of the school leaving age to sixteen in 1974. Joseph (1984), as Secretary of State for Education, also indicated that a differentiated curriculum was necessary to meet these variations in the abilities and aptitudes of pupils. He proposed that whilst all pupils should attend the same school there should be different curricular routes for them to follow. Further government initiatives promoted this form of differentiated curriculum (Chitty 1989): Technical Vocational Education Initiative (TVEI) and the Low Attaining Pupils Project (LAPP).

Harland et al (1988) pointed out that a differentiated curriculum could provide enrichment courses tailored to extend and reinforce the mainstream curriculum. A point also made by writers (Torrance 1987, Moffat 1992) arguing for a differentiated curriculum to meet the needs of gifted pupils.

Curriculum Adaptation

According to Bennett (1993), Finlow (1994), and Beveridge (1993) differentiation is the adaptation of the curriculum to meet pupils' capabilities and characteristics. The adaptation can be in the manner of delivery of the curriculum but is for these writers an alternative content in terms of depth and variation to achieve relevancy within pupils' experience. HMI (1985) viewed curriculum adaptation as one way of allowing for diversity amongst pupils.

Beveridge (1993) sees adaptation as necessary in order that pupils experience success and as a central part of effective teaching. Supportive of a common curriculum, she argues that some pupils need additional support to access it and sees adaptation as one way of achieving this. Hart's (1991) view contradicts this stance. She argues that the emphasis should be upon curriculum development rather than curriculum support. The problem as she sees it lies in the process of 'individualisation' of the curriculum, should adaptation been seen in terms of support. Individualisation she indicates is the provision of learning materials for each child who requires support. The supported pupil could end up pursuing a lonely path of individual work provided by their teacher who having adapted the curriculum, then requires support to implement it. The curriculum needs to be differentially adapted for groups of pupils (Hart 1991).

The amount of adaptation of the curriculum should be related to the needs of the child according to Norwich (1990). He contends that there is a need for a differentiated curriculum particularly in relation to pupils with special educational need. Without it pupils cannot achieve their individual potential. His view is that the curriculum should be seen in terms of aims, goals, objectives and classroom management. He then argues that for most children these can all be common but that for pupils with special educational needs they should be increasingly different as the educational need becomes more severe. A common curriculum for all, he indicates, sets up the very dichotomy which HMI (1985) say is an issue for a school's curriculum.

Problems with Differentiation and Curriculum

Differentiated curricula says Egglestone (1977) are seen to meet the needs of pupils as they have been designated by society. As such they legitimise the different social strata that exists within schools and society. Differentiation he points out is not only about facts and skills but about the values to be found within the curriculum. Gamoran (1989) summarising American literature, indicates that a differentiated curriculum stratifies pupils in relation to hierarchies in the wider society, and affects pupils' achievements. A point not too dissimilar to the issues raised by Barton and Tomlinson (1984) and discussed earlier in this study.

Differentiated curricula are thus divisive and primarily a tool for segregating groups of pupils on educational criteria decided by those involved in making the provision. Dessent (1988) echoes this, indicating that differentiated curricula tend to attract differing values. If differentiated curricula are to be effective they should be offered in a manner which values the individual and his or her curriculum choices. McParland and Crain (1987) develop this, arguing that a differentiated curriculum is needed in which all the subjects are equally valued. They are against a common curriculum because the average and below average pupil can only achieve mastery of it by 'watering down' its content.

Passow (1989) points out that the history of alternative curricula, especially those which set out to meet the needs of pupils with special educational needs, is a static one. The concentration in providing alternative curricula has been on providing alternative content in the belief that different content was required to meet diversity within the pupil population. Curriculum differentiation fails to examine the nature of the pedagogic experience. Teachers,

he argues, can maintain inappropriate and insufficiently differentiated teaching believing that they have accommodated diversity by altering the content of the curriculum. By providing alternative curricula teachers can continue to teach as though the group taking the alternative are homogenous in their approach to learning.

Notions of an alternative curriculum as differentiation are more difficult following the implementation of the Education Reform Act 1988 (ERA). Much of the writing about differentiation as an alternative curriculum predates the introduction of the Education Reform Act 1988 and relates to the last two or three years of schooling. The implementation of the Dearing (1994) reforms reintroduced the possibility of secondary schools being able to offer alternative curricula. First, because it has reduced the percentage of time schools are required to devote to the National Curriculum in years seven, eight and nine. This gives schools up to 20% of the timetable in which they can pursue subjects outside the National Curriculum, thus opening up the possibility for alternatives to be offered. Secondly, by formally indicating that for years ten and eleven pupils can 'opt' for particular subjects and can 'drop' others, Dearing has reintroduced the 'option' system prevalent in Comprehensive schools prior to ERA. The re-emergence of a hierarchy of subjects and the deleterious effect this will have on pupils are set to resurface in schools as this form of curriculum differentiation is reinstated.

Gubbins (1994) argues that it is not a differentiated curriculum which is required but rather a curriculum capable of being taught in a differentiated manner. What is required is pedagogic

differentiation. To do otherwise, he indicates, is to ensure that students end up with different work rather than differentiated work. Daniels (1993b) makes a similar point. Drawing on Hart (1991) and Brennan (1979, 1985) he suggests that differentiated curricula lead to the disadvantaging of particular groups of pupils, who may be pursuing those areas of the curriculum which lack status. Even an adaptive curriculum they see as potentially segregationist in its effects, as the adaptations are inevitably put into a value laden hierarchy.

Differentiation as an 'Outcome' of the Curriculum

These next paragraphs examine those sources which indicate that differentiation is largely seen by schools in terms of outcomes once the curriculum has been taught. Outcomes in this sense are seen as 'formal' and 'less formal'. The formal relate to official outcomes, the results of assessments such as GCSE, end of year tests, or key stage assessments. The less formal relate to 'work' individual pupils produce in response to the teaching they receive. The diversity of this work in terms of 'length', 'quality', and (Leyland, 1996) 'quickness of completion' is seen as differentiation by outcome.

Formal Outcomes

Gipps (1990) believes that differentiation can be achieved by pupils sitting different examinations which allow them to reveal what they can do, know, and understand. She points to the different examination boards and levels as providing a 'measure of differentiation'. She and Mathews (1988) indicate that there is differentiation within the examination system which is common to the various examination boards. The School

Examination and Assessment Council (DFE 1992) argued that GCSE should differentiate better what candidates know, understand and can do.

The examinations at the end of compulsory schooling are seen as differentiating in a number of ways (Mathews 1988, Gipps 1990, Good 1989). There is the examination which is a common paper that all pupils sit and is then followed up with 'extension' papers for those pupils seen to be more competent in that subject. There are sets of examination papers which overlap in the degree of knowledge, skill and understanding required to successfully complete them. These papers are welded to possible levels of examination pass. For example, pupils sitting paper four in Mathematics can only get a D or E grade, those sitting paper three, a C or D; those sitting paper two, a B or C; and those sitting paper one an A or B; (Mathews 1988). Pupils having followed a common syllabus are then put in for the 'differentiated' examination paper which their teachers perceive as being appropriate to their level of achievement. Another form of examination is one which is essentially there to cover the fact that the pupil may have followed an alternative or adapted curriculum. Gipps (1990) describes this form of examination as 'the three in a line' approach, where there is an implicit hierarchy in the papers and in the form of questions. They range from an easier paper attracting forms of questions which it is postulated are simpler, such as multiple choice; to harder papers having questions which require written answers of a prose type.

Torrance (1987) and Gipps (1990) point to some of the problems that arise from this form of differentiation. In particular they point to the divisiveness of these forms of examination.

Gipps (1990) believes that the least divisive is the first type, where a common paper is followed by an extension paper. Torrance (1987) argues that the deleterious effects of these forms of differentiation can be mitigated by records of achievement. He sees these as an additional positive contribution for differentiation by outcome, enabling pupils to show more widely what they have achieved.

Finally, in relation to 'formal' differentiation by outcome, Gipps (1990) indicates the possibility of a two tier system of differentiated outcome being perpetuated. Since GCSE is limited to levels four to ten of the National Curriculum subjects, she is concerned for those pupils whose achievements in any one subject are below level four. Differentiation by outcome in these instances will be very stark as no outcome will be recorded in the 'formal' part of measured outcomes at the end of compulsory schooling.

Accreditation for levels one to five have been developed viz, Diploma of Vocational Education; Youth Award Scheme, Associated Examining Board, Royal Society of Arts. There is some debate as to whether the worth of these as outcomes is credible with employers, pupils and schools. This second or lower tier of formal accreditation is seen as less worthy than GCSE.

Less Formal Outcomes

A number of writers believe that outcome in terms of the work an individual pupil produces is the most common form of differentiation to be found in schools. Cornwall's (1992) survey

found that it was the most common view of differentiation in their secondary schools. McKay (1991), Sebba and Fergusson (1991), Laycock (1994), NCC (1991), and HMI (DES 1986) are amongst those sources which claim that differentiation is largely to be observed in classrooms in terms of outcomes. Marjoram (undated) and Berkshire (1993) see this in terms of the speed at which an individual works either to complete a given task, or the quantity of work produced in a given period of time. They are not *per se* supportive of this as a teaching approach, merely indicating that this is how many teachers perceive differentiation.

Moore and McCall (undated) on the other hand, are somewhat more positive about this form of differentiation. They see it as teachers providing opportunities for pupils to show what they know, understand and can do. A view McIntyre and Postlewaite (1989) and Fletcher (1993) support. They see differentiation by outcome as part of a wide 'armoury' of differentiation which includes alternative and adaptive curricula differentiation. Payne (1992) goes further believing that differentiation must be by outcome alone. To do otherwise perverts that notion of a comprehensive education, which he argues must be based upon all pupils being given the same input.

Daniels (1993a) indicates that an over concentration by teachers on differentiation by outcome, particularly in relation to a linear programme of study, creates the 'straggling low attainer'. A pupil is perceived as less able in terms of outcome if the quantity of work is less than that produced by others. As Powell (1991) says, 'produced work' becomes the sole point of doing the task. There arises an over reliance upon written work of a prose nature as

the desired outcome to show the learning of a pupil. If a wider range of outcomes is considered it could be a better form of differentiation.

A further danger in differentiation by outcome is indicated by HMI (DES 1986). They found that most differentiation by outcome was unplanned. As Collins and Taylor (1992) indicate, teachers tend to present pupils with input followed by the setting of a task. They then sit back and await the variety of outcomes from the pupils. Dickinson and Wright (1993) state 'allowing differences in outcome to show themselves' is a very narrow view of differentiation. The concomitant danger here is that the teachers' expectation of what their pupils can achieve is lowered to accept what they produce.

Individualised Education Plans

A logical extension of a differentiated curriculum is to individualise it for each pupil. This individualisation has both been in the content of the curriculum and in relation to the progress made by a particular pupil through a given amount of curriculum content. At best, to individualise a curriculum in this manner is to ascertain a baseline of the child's knowledge, skills and understanding and then to set a 'line of progression' through the curriculum which enables the child to achieve success. At worst, it leads to a set of individual programmed learning which differentiates the child from his or her peers and leads to isolation in learning.

Hart (1991) goes on to argue that individualisation of curriculum provides for the isolation of the learner. Reminding the reader that there is a common National Curriculum, she points out that no child should be made 'to feel that they have an individual lonely path through' it.

Managing differentiation should not lead to the isolation of an individualised curriculum (NCC 1993d, Rose 1996).

Recent guidance which schools 'must have regard to' (COP 1994) indicates that individual educational plans (IEP) must be written for pupils at stages two and three in the identification and assessment of their special educational needs. If a statement of SEN is written (Stage 5) pupils should also have an IEP. Within stage one the COP calls for 'a more differentiated approach' to be adopted by the pupil's teacher. The guidance given perceives differentiation to be focused on the teaching strategies, but also argues for an individual plan as part of a 'more different' approach.

Gubbins (1994) is concerned that meeting the needs of gifted pupils does not isolate them from their peers by the provision of an individualised curriculum. A point which also relates to pupils with SEN, outlined above. Differentiation whilst acknowledging diversity should do so in a manner which provides for the equal valuing by schools and teachers of all pupils. The provision of separated work tends not to do this, as it leads to one form of curriculum being more valued than another (Gubbins 1994). Similar concerns arise if pupils' special educational needs are met by 'more differentiation' which effectively removes them further from their peers.

Larcombe (1987) points out that however skilled the teaching force becomes at differentiation in all its forms, it would be impossible to run individualised programmes for all pupils without a high degree of organisation. The individualised programme described

by Carr et al (1992) is computer based in terms of the recording of what pupils have completed. Other writers also point to the difficulties of individualised programmes for pupils and teachers if they are sustained over long periods of time and across all subjects. It may be profitable for a pupil to work on a particular concept or skill for a short period of time. However, to work by oneself for lengthy periods without discussion, general chat and a feeling that others are also learning, is one which even PhD students find detrimental to their learning (Phillips and Pugh 1994).

Weston (1988) points out that whilst it might be an 'ideal' to meet individual needs, the practical constraints of teaching indicate that this is not possible. Pragmatically, teachers teach groups of pupils. Both Weston and others (BELB 1990, Hart 1991, and Visser 1993a) concur with this view, indicating that it is the understanding of the nature of the diversity of an individual within a teaching group which is important. Rose (1996) equating differentiation with individualised programmes of teaching, argues for whole-class teaching which makes allowances for individual differences.

A further criticism of this form of differentiated curriculum in particular, though it can also be applied to differentiated curriculum approaches more generally, is the nature of the content of these individualised programmes. Pupils are offered an individualised programme on the basis of finding the current curriculum or key aspects of it difficult (Montgomery 1990). They are then given more of what they can't do, to do. Both she and others (Swann 1988, Ainscow 1991) point out that when differentiated curricula have this form of content

they reinforce the isolation of the pupil, are insufficiently cognitively engaging, and provide learning which is out of the context. Learning, as they indicate, seldom takes place in 'splendid isolation'. It is 'essentially a social and interactive process' (Alexander et al 1992) and needs the sense of belonging to a group espoused by Maslow (1976) as a basic need.

Thus, an individualised curriculum may be a logical extension of the differentiated curriculum, but there are question marks against its efficacy as a means of enabling pupils to learn, as well as its tendency to reinforce a divisive approach to diversity.

2.3.5 Pedagogical Focus

The majority of recent UK sources use the term differentiation in a pedagogic sense, in relation to teaching and learning, rather than to how pupils are placed in different schools, or the possibility of offering a differentiated curriculum. The emphasis is upon meeting diversity within the classroom, via an examination of teaching and learning. Weston (1996) reports that the majority of teachers and advisors in her survey viewed differentiation in this way.

There appears to be a growing realisation that however schools arrange their pupils in groups there remains diversity amongst the individuals brought together in those groups, whether pupils are in mixed grouping or in some form of setting. Similarly, that even if a differentiated curriculum is re-introduced (Chitty 1993) pupils who have been grouped by the curriculum they are following will still contain a diverse range of pupils. It is diversity

within a group, however arrived at, which needs to be addressed by pedagogic differentiation. Pedagogy in this respect is defined as those methods teachers use within the classroom to enable each pupil to achieve intended learning targets.

Writers tend to approach this focus from one of three perspectives: teaching strategies; learning styles, or a combination of both. In the first there is emphasis on planning, and to a less extent, upon evaluation of lessons; with learning styles, the emphasis is upon the pupil and an understanding of their approach(es) to learning. With those who adopted a combination of both approaches the emphasis is upon a 'match' between teaching and learning such that the teaching is congruent to the learning style and the needs of the pupil.

Pedagogic differentiation is seen as an important aspect in enabling all pupils to learn. As such it formed part of OfSTED's (1993) quality of teaching measure, when inspecting schools. Their reports and a wide range of writers (Montgomery 1990, Ainscow 1991, Bennett 1991, Como and Snow 1986, Cornwall 1992, DES 1986, Larcombe 1987, Postlewaite 1993, Simpson 1993) indicate that it is an aspect of teaching which is lacking, or needs to be developed. Whilst there is extensive literature on *how teachers should* pedagogically differentiate, there is little research evidence on *how teachers do* so.

Interaction of Learning and Teaching Styles

For Stevenson and Palmer (1994) differentiation is a congruence between teaching style and pupils' learning styles. They see it as a dynamic process which though it can be planned for

and outcomes from teaching specified, contains much that is process oriented and intangible. If teaching and learning have three stages, planning, delivery and outcomes, then they together with writers like Entwhistle (1990) and Schon (1983, 1987) view differentiation as an aspect of the delivery stage.

This three stage model of teaching and learning occurs in advice for differentiation given by Devon (1992). Teachers' process skills (such as negotiation, organisation, guiding, encouraging, and supporting the pupil) enable the teacher to differentiate in the course of teaching. These process skills are seen as effecting alterations in teaching styles as teaching is taking place.

Visser (1993a,1993b) refers to differentiation as a process whereby match is achieved. He and others do not negate the need for planning by teachers before teaching to take differentiation into account. Rather because planning has taken place teachers are more able to differentiate, using their process skills as they teach. A key aspect of this view of differentiation lies in the evaluation and reflection which take place. Dickinson and Wright (1993) see this as important and indicate that teachers do not do this as frequently as they should. Devon (1992) implies the same, by placing evaluation at the 'end' of a cycle which begins with planning.

Schon (1983, 1987) argues for a more dynamic view of evaluation. He indicates that during the course of teaching, the good teacher is constantly making judgements regarding the

effectiveness of what he or she is doing in relation to a pupil or group of pupils. On the basis of these reflections-in-action teachers make decisions regarding their teaching style, in order to match their work more closely to the learning needs and styles of the pupil(s) concerned. For Schon (1983) the act of evaluation or reflection is a process which enables teachers to meet individual needs within the classroom, and thus to differentiate.

Pollard and Tann (1993) similarly argue for greater reflection on the part of the teacher. They have two levels of the planning stage: (i) where the teacher ascertains what is intended to be learnt and (ii) where the teacher identifies the children's existing knowledge. They also argue that it is through a teacher's 'observation of the process of teaching' as they teach that differentiation is achieved, with periods of evaluation and reflection giving teachers a basis upon which to judge their success in achieving a match. Shipman (1990) similarly sees it as the process whereby teachers note the variety of characteristics in pupils as they teach, organise the learning and re-structure their teaching to allow for diversity. Lewis (1991), as indicated earlier, suggests that this occurs in the best quality teaching in an apparently seamless manner.

Schon (1983) indicates that professionals may not be able to articulate why they have done what they have done until they have reflected upon it; seamless teaching is thus reflection-in-action. As Rotherham (1991a) indicates, the adaptation of teaching styles to match individual strengths and weaknesses often occurs as the teacher is teaching but relies for effectiveness upon the confidence of the teacher, his or her knowledge of the subject matter,

an ability to control the situation and the depth of his or her knowledge of the pupils concerned.

Notes of Caution

Whilst the majority of writers on pedagogic differentiation argue by implication that what is required is for teachers to achieve a greater match of learning and teaching styles, other writers sound notes of caution.

Bennett et al (1984) indicate that whilst much is talked and assumed about 'match' little is known about 'matching' or even 'mis-matching'. Their research found that only 43% of lessons were 'matched' in primary schools. The negative consequences of the mis-match for the remaining 57% were assumed. To ascertain the effect of these matches and mis-matches a longitudinal study would need to be undertaken. Given the variety of factors which could affect educational outcomes, isolating differentiation or the lack of it as a factor of particular importance, would be difficult. None-the-less, Bennet et al (1984) conclude that there is a need for a greater match in teaching. Rose (1996) argues that this can be achieved within whole class teaching. He sees differentiation where the teaching strategies used concentrated totally on individuals as detrimental to children's learning.

A second note of caution is sounded by Desforges (1985). He argues that given the constraints that arise from teaching classes in schools, teachers may be differentiating as far as it is possible. Given constraints of time and resources amongst other factors, he says, to

achieve a greater match the system may need to consider alternative approaches to enabling education to take place. In the ten years since Desforges argued this viewpoint, education in England and Wales has altered in a number of significant ways, particularly in relation to the curriculum. The extent to which Desforges' (1985) argument still holds merit is questioned, given the developments to date. Teachers are freer to concentrate upon the nature of their teaching style/strategy rather than upon the need to make decisions about the content for particular groups or individuals. The content is laid out within the framework of the National Curriculum.

Differentiation as a 'match'

Even between writers who see differentiation as a match between teaching and learning there are significant differences as to what aspects of classroom interaction are matched.

For some, the match is between teachers' planning and an individual pupil's learning. For others the match is between the teacher and some form of grouping within the class. Other authors see the match in terms of resources and materials. Yet others place the emphasis upon planning before teaching, whilst for some it is a much more dynamic process which includes the skills of classroom management. The latter see it as contained within classroom interaction rather than in the planning for teaching.

The inconsistencies that occur in the literature present teachers with a confusing message as to what it is they are to address when considering differentiation. This is exemplified in documents emanating from the National Curriculum Council (NCC).

The NCC shortly before its merger into the Schools Curriculum and Assessment Authority (SCAA) produced a number of curriculum guidance documents (see for example, NCC 1992b, NCC 1993a - f) each of which have sections of varying lengths on differentiation. They follow a survey completed for the NCC (1992a) which indicated that teachers wanted a description of differentiation and some concrete exemplars. The exemplars in these guidance documents might be expected to vary according to the subject and phase of education under discussion, and do. The conception of what differentiation is could be expected to remain constant. Even within one curriculum area, namely Science (NCC 1993a, 1993b), there are differences in the concept. The implication is that differentiation as a match between teaching and learning differs between key stages 1 and 2, and key stages 3 and 4 in science.

Thus, either differentiation varies in its meaning according to subject and age, and the National Curriculum Council give no evidence to support this, or there is some inconsistency in the description of what the term differentiation covers. Five definitions taken from these guidance documents are given below as illustrations of these variations.

National Curriculum Council Definitions

1. A set of judgements and procedures whose purpose is to accommodate differences in children's abilities, aptitudes and needs.

(NCC 1990a p.10)

2. Differentiation is the process by which curriculum objectives, teaching methods, assessment methods, resources and learning activities are planned to cater for the needs of individual pupils.

(NCC 1993b p.83)

3. The matching of work to the abilities of individual children so that they are stretched, but still achieve success.

(NCC 1993a p.78)

4. The process of matching activities to the needs of pupils of varying aptitudes.

(NCC 1993d p.66)

5. The planning of work appropriate to individual development.

(NCC 1993f p.19)

The inconsistencies in the concept of pedagogic differentiation lie in the area of purpose and are discussed below: how it is to be achieved; what is to be matched; when it takes place; whether it is for groups of pupils or individuals; and the range of diversity it might encompass.

Variations in Purpose

The variation in the purpose of differentiation covers:- 'accommodation' (1); to cater for needs (2 & 4); stretching pupils (3); and allowing them to 'develop' (5). Accommodation

lends itself to adaptation of the curriculum, whereas development bespeaks of a more *laissez-faire* approach to curriculum delivery; where children are allowed to develop according to some natural means. 'Stretched' gives a sense of a teacher making the child painfully go from one fixed point in the curriculum to another. Whilst catering to meet the needs gives an interactionist flavour where the teaching style is matched to the needs of the pupil. The needs themselves are not specified in (2) and relate only to aptitude in (4).

How Achieved

In (1) differentiation is achieved by utilising a set of judgements and procedures that the teacher engages in. Here one could expect to see a listing of these but none is given. Whereas in (2) and (3) differentiation is to be achieved via a process which is a more dynamic and fluid concept than the static 'set of judgements'.

What is Matched

In the first definition the match is between procedures and judgements which are taken in order to accommodate differences described as being 'abilities, aptitudes, and needs'. Whereas in (3) it is only the abilities of children which are to be taken into consideration, and in (4) only their aptitudes. The second definition only mentions needs.

When Occurring

Definition five sees differentiation as a planning process, one which takes place before the lesson. Differentiation in (2) is also seen as part of a teacher's planning. Within (1) there is

the possibility that the 'judgements and procedures' could be within the planning stage of teaching, take place in the actual teaching, and be part of a teacher's evaluation of their teaching. This possibility also exists with (3) and (4).

Does differentiation occur when meeting an individual's needs on an individual basis as in (5), (2) and (3) or for groups of 'individuals' as in (1) and (4).

Range of Diversity

Within these definitions there is also some variation as to the range of diversity within pupils and whether this diversity is open to change. In (1), (2) and (4) the diversity is described in terms which have static, unitary connotations: ability and aptitude. Differentiation is seen as an action on the part of teachers with regard to these 'given' attributes. The implication is that the pupil is a 'passive' participant in learning, activated by teachers when teachers differentiate. Definitions (3) and (5) indicate that active pupil participation is part of the teaching situation. Pupils 'development' is an active process and the pupils' diverse attributes are not *per se* static. There is the possibility with (3) that the 'stretching' of pupils will alter the nature of their diversity. Both 'development' and 'stretching' as descriptive terms have a dynamic quality.

These inconsistencies are important for teachers attempting to ensure that their 'quality of teaching' is enhanced and developed, particularly in the light of OfSTED inspections. Four of the definitions given are from guidance documents published over a six month period

written in response to the request from teachers to the NCC (1992a) for some coherent and consistent guidance on differentiation. The NCC would appear to have added to the confusion regarding differentiation.

Another example of the inconsistencies that can occur in documentation is some guidance from Berkshire (1993). Their definition talks about meeting an individual's learning needs and then proceeds to give exemplars which are entirely based upon how to work with groups of pupils. There is no indication as to how group work, of the sort they describe, meets an individual's learning needs. Visser (1993a) gives further examples of the differences to be found in the concept of differentiation within the literature.

Thus differentiation in relation to pedagogy is seen as a match between teaching and learning and is an action undertaken by teachers, which needs to be planned for, reflected upon and evaluated, but takes place within the act of teaching a group of learners.

2.4 Differentiation: Research

Little published research has had differentiation as its focus. The small body of such research is examined below. There are a number of possible reasons for this paucity. Amongst them the difficulty of an agreed definition of what constitutes differentiation. Second, differentiation as described in the two previous sections of this review indicated that it is an action which cannot be entirely captured by noting observable actions. The teacher's and the learner's thought processes need to be understood and given some quantitative or qualitative

measure as well. This process presents the researcher with logistical difficulties. It would be very time consuming for both researcher and the researched (teachers and pupils) having observed the actions within a lesson to then elucidate the thought patterns which were behind the observed actions.

During the 1980s BBC2 ran a series of master classes for chess players. They did this by showing two grand masters playing a game of chess whilst simultaneously broadcasting each individual's thoughts as each move was being made. Since it would have negated the value of the game if each player had 'heard' these thoughts at the time of the move, the producers recorded these after the game had ended. Chess players at this level have an ability for remembering all the moves they have experienced.

A research project which could enable a similar record of classroom lessons to be made, would generate data illuminate the degree to which a match between teaching and learning might be achieved. Unfortunately, unlike a chess match with only two players and a given set of rules which are rigidly followed, classrooms often have in excess of thirty players, and though orderly do not follow a set of rules rigidly. Though a number of videos of teachers at work are available they concentrate upon a given observable aspect of teaching, such as how the pupils are grouped; the use of particular materials; or the manner in which tasks are implemented (see for example, Wiltshire 1992). This approach to differentiation is usually based upon the view that it is achieved by the manipulation of three perceived aspects of

teaching: input; task; and output (Spillman 1991). Differentiation as related to pedagogy is more than the sum of input, task and output.

Brown and McIntyre (1993) indicate that much of the research into pedagogy saw it as a matter of examining teaching in terms of the methods used. They argue that research in the seventies was largely concentrated upon what teachers did in classrooms. With the eighties they felt there was some shift of focus to look at what teachers were 'thinking' as they went about teaching. Their analysis of the research indicates that as the nineties were entered, there was no further shift to include pupils' learning.

The evidence of the lack of research in this area is supported by King (1990) who indicated that despite its importance she also found little research on differentiation. She felt that this was because differentiation was thought of merely in terms of tasks set for pupils by varying the types of work sheets. She stated that teachers considered differentiation to be 'the inevitable three worksheets': one for the able pupil; one for the average; and one for the less able.

Wilcox (1985) similarly complains of a lack of research into a match between teaching and learning styles. He showed that there is a paucity of research evidence to indicate what is effective by way of teaching and learning, and whether a 'match' between these actually enhances achievements a point also made by Entwhistle (1990).

McIntyre (1993) indicates that too little is known about 'professional craft knowledge : i.e. what takes place on in classrooms as teachers teach and pupils learn. He sees this as a problem for researchers wishing to investigate differentiation. As indicated above, the evidence on teaching and learning concentrates more upon what teachers' and pupils have done, not on the mental processes each engages in. Nias (1989) is an exception to this trend. She examines teachers beliefs, attitudes and morals via a series of interviews and makes some interpolation as to how these affect the mental processes in teaching. McIntrye (1993) sees a problem for the researcher wishing to establish how to differentiate in that teachers view their classrooms as places of action, and in terms of the general ability of different students. Actions are, as indicated above, logistically difficult for the researcher to handle.

These difficulties in researching differentiation are echoed by Simpson (1989). She indicates that even with a number of research assistants her research encountered problems. First there was a difference between the researchers as to what differentiation covered. This called for the researchers to spend time clarifying in some detail what it was that they were to observe as constituting differentiation. Further methodological problems were incurred in obtaining teachers' and pupils' views of what had taken place during the periods observed. Stradling and Saunders (1991) indicate they had similar problems in examining differentiation in relation to pupils whose attainments were low in secondary schools.

2.4.1 Published research

The following published research has been found by the author in searching through the literature:

- Simpson et al (1989) - investigation of differentiation in six primary classrooms;
- Bennett et al (1984) - investigation into quality of pupils' learning experiences in upper primary classes;
- Stradling and Saunders (1991, 1993) - an examination of differentiation as it occurred in the Low Attaining Pupils' Project (LAPP);
- Biggs (1993) - examined differentiation within higher education;
- Fuchs, Fuchs and Bishop (1992) - identification of conditions which prompt teachers to change their style of teaching;
- Simpson and Ure (1993) - differentiation in Scottish Secondary schools.

A further source is some market research conducted by NCC (1992a) which sought teachers' views on the content of the NCC's guidance documents. This found that teachers had a number of priorities, irrespective of their subject. Heading this list is a perceived need for advice and guidance on planning for differentiation.

Simpson et al (1989) studied differentiation in Scottish primary schools. They chose a sample of six teachers and identified within each teacher's class six pupils: two of below average attainment; two of average and two of above average. The classes concerned covered the whole primary age range. Tasks given in some lessons to these pupils over a four month period were observed by the researchers. Teachers and pupils were interviewed regarding their intentions and experiences of these tasks respectively. Following the

establishment of their findings the teachers took part in further discussions and undertook some action-research related to their own professional development.

Overall, the research established that there was a considerable mis-match between what teachers intended a task to do and how pupils experienced the task. Simpson et al (1989) adopted a model for learning, derived from the work of Rumalhart and Norman where tasks were assigned to one of the following categories:

- Incremental
- Restructuring
- Enrichment
- Practice
- Revision

A total of two hundred and thirty two tasks were observed: they found that over half were intended as practice; less than a third were intended as incremental. The majority of tasks in the study related to mathematics.

Their findings indicated that there was some initial confusion over the definition of differentiation which had to be resolved before the study could begin in earnest, and treat with some circumspection their finding that in 76% of tasks overall there was a match between the teacher's intention and the pupils' experience. They indicate that the criteria used were simplistic especially in relation to practice tasks. When the task was matched to a

judgement of pupils' learning needs they found only a 44% match in mathematics rising to 58% in the other subjects tasks. They indicated that underestimation of pupils' abilities and needs increases with age and sum up by saying:

> It is hard to interpret (the results) in any other way than as indicating that, contrary to their teachers' stated intentions, primary school pupils are frequently engaged in classroom activities which are inappropriate to their abilities and attainments.
>
> Simpson et al (1989) p.14

In other words there was a lack of pedagogic differentiation. They indicate that the teachers involved in the study were most surprised by these findings and cite a number of factors which they considered hampered their ability to differentiate. These are discussed later.

This study, though small scale in nature, concurs with the work of Bennett et al (1984) in their more general study of primary education.

In mathematics this work focused upon classroom practice in upper primary classrooms in three junior schools. The focus of their work was upon the tasks pupils experienced and their relation to outcomes. They concentrated within this on the core areas of English and Mathematics. They categorised the work given to pupils into five task areas. Overall they found that the most predominant 'task' set pupils were practice and revision tasks. They ascertained individual pupil's level of familiarity with the procedures and materials within the tasks they were completing. In 54% they found that there was a mismatch between the task set and the learning needs of the pupil. These tasks were perceived as either too easy or too difficult in particular they found a high percentage of tasks (60%) were practise tasks, and

were not matched to pupils' learning needs. There is some evidence that the teaching of mathematics (Daniels 1993a, Cockcroft 1982) is not as well taught as other subject areas. Indeed, the findings presented by Simpson et al (1989) support this with a lower 'match' being achieved in mathematics compared to all the other subject tasks given.

Simpson and Ure's (1993) work examined differentiation within secondary schools. Their sample consisted of fifteen schools and they examined the work of twenty three departments. They focused upon the core subject areas of science, mathematics and English, as well as looking at the work of the Modern Language department. They based their findings upon data derived from semi-structured interviews of teachers and pupils together with classroom observations. They also used departmental documentation regarding differentiation where it existed.

They found that differentiation particularly in mathematics, but more generally in the other subject areas was conceived in terms of grouping pupils. This was less so in English. This conception led in their view to a 'serious under-assessment' of what pupils are capable of, particularly in the lower years of secondary school. Their observations of lessons indicate that teachers made assumptions regarding pupils' skills. For example, teachers used group work as a teaching strategy but had assumed that pupils already had group work skills. These assumptions reduced the effectiveness of the approaches adopted by teachers and showed a lack of knowledge of pupils.

In mathematics and science there was a greater reliance upon published schemes of work which structured discrete blocks of knowledge to be assimilated by all the pupils in the same way and at the same time. Simpson and Ure (1993) felt that this approach led to the perception of differentiation by grouping, and an over concentration on whole class teaching found in these subject areas. They indicated that during the last two years of school, with their emphasis upon external examination achievement, the emphasis moved from whole class teaching to differentiation as a match between teaching and learning styles. They identify a number of factors which teachers felt inhibited their ability to differentiate. Foremost amongst these were issues of class size, particularly where it affected the time available for individuals and teachers' knowledge of individuals. Other issues related to spread of attainment within classes, and the pressures felt by teachers to get pupils through the curriculum.

Simpson and Ure (1993) point to the need for a cross-curricular audit of the knowledge, understanding and skills required by subjects. This they argue would ease some of the pressure both teachers and pupils feel is needed to progress through each syllabus within the curriculum, by cutting down on the repetition which occurs. They further argue that if pupils acquired an understanding of their learning skills (meta-cognition), they would be more able to achieve within the curriculum.

Fuchs, Fuchs and Bishop (1992) conducted a series of interviews with and observations of teachers. They were concerned to identify the factors which prompt teachers to change their

style. They claim to have found that teachers within the secondary phase rarely adapted their teaching styles except when teaching pupils perceived as having special educational needs. They established that teachers had identifiable goals which they wish pupils to achieve and believed that they were doing all that they could to enable pupils to achieve these goals. Pupils' non-achievement was perceived as the result of pupil-centred problems such as inattention, inability, or misbehaviour. They maintain that the teachers they studied rarely questioned their teaching styles in relation to pupils' achievements.

Biggs (1993) examined students' learning processes within higher education. He collates a number of studies and indicates that students learning styles and achievements seldom impact on the teaching styles adopted by tutors. He makes a plea for greater interaction between student and teacher. In particular he believes the nature of the learning task needs to be made more explicit if teaching style and pupils' learning are to achieve a greater match.

Bennett has been concerned about the teaching and learning in primary schools for a number of years (Bennett et al, 1984; 1991; Bennett, 1993; Bennett and Carre, 1993). He and his associates have, throughout this period, maintained that 'matching' is not fully understood by teachers and takes places in under 50% of the classrooms they have observed. By matching they mean the 'tailoring of teachers' input to pupils' capabilities and characteristics'; which they refer to as differentiation. This lack of differentiation they indicate leads to an under-estimation of what pupils can achieve and a predominance of teaching which is aimed at the

'middle of the class'. Teachers they believe fail to see under achievement since they regard quantity of work as achievement.

The under achievement of pupils has been of some concern in secondary schooling and a number of initiatives (TVEI, LAPP) were launched in the 1980s by the DFE. Neither of these initiatives had a primary focus upon differentiation. They were more concerned with curriculum content and were initiatives which sought to explore the effects alternative curricula on pupils attainments. LAPP has been linked to differentiation by Stradling and Saunders (1991, 1992, 1993). They argue similarly to Simpson and Ure (1993) that differentiation was mainly seen in terms of grouping pupils; that the effective identification of pupils' learning needs was not always present; and that whilst schools' stressed the need for changes in teaching styles to match pupils' learning styles in practice the amount of match, even amongst pupils with special educational needs, was very variable. They maintain that teachers place the emphasis in low achievement upon factors within the pupil rather than on the interaction between the pupil and the teacher.

Summary

Thus, the research suggests that:

- Differentiation is not a universally understood term within the teaching profession.
- Teachers' intentions for their pupils' learning are not always what pupils perceive to be the intention in terms of the learning they achieve.
- Differentiation is an issue for all teachers regardless of the age of their pupils.
- Further research into understanding the effect of 'matching' is required.

- Teachers lack a reflective process which informs future teaching and increases 'match'.
- Teachers teach to their perception of where the majority of the pupils in a given class are in terms of their knowledge, skills and understanding.

2.6 Conclusions from Review of Literature

This review began with a discussion of the issues which surround differentiation and explored the use of the term. It has shown that differentiation within educational use has four principle meanings: foci. These provided a structure for examining aspects of pedagogic differentiation in some depth. The inclusion of the author's published contributions on differentiation has shown his involvement and original contributions to the issue of teaching and learning.

The overwhelming view in the literature is that teachers do not differentiate sufficiently. If the evidence is that differentiation is lacking then it is also true that some differentiation must be present. It has been shown that differentiation is more subtle and complex than the input - task - output model which is the prevailing understanding of how differentiation should take place. Schon's (1987) view that teachers do it but don't describe it, that it cannot be measured because it is reflection-in-action, is one which has significant merit.

A professional reality would appear to be that the pedagogic differentiation which occurs is a response to the perceived failings of systems and procedures rather than a planned approach to the diversity of pupils, their approaches to learning and their achievements.

The next section gives some data from field research which provides further evidence on some of the issues raised in this review. These are then linked with this review in the final chapter to present a model of differentiation in practice.

3. Contributions from Field Work

3.1 Introduction

When planning and analysing field work the professional is confronted with a wide variety of sources that give guidance on how it can or should be done. Research methodology within education is a discipline in its own right which has spawned writers who hold very different views (Cohen and Manion 1995, Stevenson and Cooper 1997). Reviewing sources soon reveals that field work within education can take on a variety of forms which use a diverse range of techniques for data collection with differing analytical procedures. There are no absolute guidelines for the researcher to follow in making a proposal even within the qualitative tradition (Marshall and Rossman 1989, Henwood and Nicholson 1995, Sapsford and Jupp 1996). The standard procedure they indicate is that the source and type of data being sought are the best guide to the method of collection. Understanding this advice and applying it to the methodology used provides a researcher with an important understanding of the processes involved in the field work itself.

The field work which forms this section is embedded in the in-service contributions made by the author over the past six years. These have been of a variety of types: seminars for large and small audiences of teachers and LEA officers; whole school development days; inservice courses for LEAs; unpublished papers given at conferences; and lectures on award bearing courses.

There have been over a hundred of such contributions during a six year period listed with in appendix one. These have involved work with teachers in practical workshop as well as seminars. On these occasions the ideas and thoughts contained in this study have been the subject of much discussion and reflection, and have contributed to the development of the material which makes up this study and its originality. Reflectivity is seen as an important component of qualitative research (Frankfort-Nachmias and Nachmias 1996).

The evaluation evidence from participants of the author's contributions indicate that these have been considered to be professionally valuable and well received. The core of the message of these contributions has been grounded in a review of literature and personal professional experience: that differentiation should be considered as a match between teaching and learning; that this is not easy to achieve; and that within secondary schools in particular it is not as in evidence as it could be.

Originality

The field work presented is from three separate but interlinked pieces of work. These are: a questionnaire return from secondary school teachers within one LEA; a series of interviews with staff in three secondary schools in different LEAs; and an analysis of OfSTED inspection reports within one LEA. The inclusion of the data from this field work enhances the originality of this study.

3.2 The Field Work

Early in the contributions to in-service work the opportunity occurred to gain information from a large cohort of secondary teachers via a questionnaire, following a request to run a two day course for all the special educational needs co-ordinators in one local authority's secondary schools. As part of the prelude for this course it was decided to gather information on secondary school teachers' attitudes and beliefs regarding differentiation. This exercise had limitations, discussed later in this section, but yielded a bank of information which informed discussions and workshops on the course. A later, fuller analysis forms the first piece of field work presented in this study.

The second piece of field work is based upon a series of interviews of staff in secondary schools who had requested the author to conduct a whole school development day. The interviews were time consuming, and not all the participants were available on the two days set aside for each school. Consequently, the author had to make further trips to the schools to obtain a full range of interviews. The information gained was used to provide an individual focus for each particular school's development day. The interviews were taped and the subsequent qualitative analysis is included in this study.

The third piece of field work centres upon OfSTED inspection reports. OfSTED regard differentiation as integral to their criteria in judging the quality of teaching. When presenting the issues surrounding differentiation, the author needed to understand the impact of the OfSTED inspection process on schools and individual teachers. Many discussions with

headteachers and teachers indicated a belief that the term differentiation was being used in reports in very different ways. Several requests to the author to conduct development days for schools were prefaced by the school's inspection report indicating that differentiation was seen as an issue which the school should address. As a consequence, the author read a number of OfSTED reports for the schools which he undertook to work with. These revealed that inspectors used the term differentiation in different ways. Subsequently the author undertook an analysis of all the published inspection reports of mainstream schools within one LEA.

3.2.1 Methodological Issues

When working with secondary school teachers in particular, four issues seemed central to an understanding of how to enhance their teaching skills. This is not to preclude the importance of other issues in the acquisition and development of these skills. It is rather to acknowledge that the central concern for this author is how to improve the teaching and learning experienced in secondary schools once teachers have been initially trained.

The four issues are elucidated in the introduction to this study where they were posed as questions. They are:

1. The acknowledgement by teachers of pupil diversity;
2. The effect of this acknowledgement on how teachers differentiate;
3. Factors affecting the level of differentiation;
4. The extent to which differentiation is bound by school contexts.

These issues form the framework with which the field work was analysed. The issues are revisited in the discussion section of this study. Before presenting the analysis and discussing the data from the field work, this section discusses the methodological issues in obtaining it.

Methodological issues cover general issues, factors concerned with sampling, the ethics of practitioner research, and a critical analysis of using questionnaires, interviews and document analysis. The last three are the research tools used in the field work described.

General issues

> The research process is never as linear as it is portrayed.... the process can be very interactive in nature ..... a researcher may be doing footwork that more resembles the cha-cha than a straightforward stroll.
>
> Mertens and McLaughin (1995)

The field work in this study does not form part of an overall long term linear plan which was formulated at the outset. Rather, it is a series of interconnected events. These events have as their common strand, a need on the part of the author to understand aspects of differentiation or gain further knowledge of teachers' and others' perceptions of the term and its meaning for them in practice.

This common strand enabled some clarification of educators' views and provided information of use within the staff development programmes run by the author. It is hoped that their contribution within this study will enable this process to guide practice. It is also

hoped it will develop a basic knowledge and understanding of teaching and learning, providing questions for further investigation at a later date.

Data Analysis

The data from which the analysis is taken is in three forms. The first are the results of the questionnaire. These are largely dealt with in a quantitative manner. Analysis from the second piece of field work is based on interviews and the transcriptions are presented in appendix five. Including this data enables others to read and verify the conclusions drawn and if the reader so wishes to let the interviewees speak directly for themselves. The third is taken from OfSTED reports. These are publicly available on the Internet and thus are not included in this study. (They are in total approximately eight hundred pages in length.)

Field work

The study has used the term field work rather than fieldresearch to describe the work undertaken. The reason for this is that the activities took place within the course of the author's professional interaction with schools and authorities, rather than as separate pieces of fieldwork. Research has been defined by Stenhouse (1992) amongst others, as a systematic self-critical inquiry made public.

The term, 'field research' is described by Frankfort-Nachmias and Nachmias (1996) as having two characteristics. First, it is carried out in natural settings, and secondly, it empathises with, and has an understanding of, the subjective meanings of the phenomenon being studied. Such an approach, they argue, tends to have participant and non-participant

observation as tools. The work described in this study did not use either participant or non-participant observation exclusively. It did take place in natural settings, namely the participants' schools or teachers' centres. As a teacher the author had an understanding of the subjective meanings of differentiation and of the professional settings in which teachers and others were using and discussing differentiation. Thus, whilst the work conforms to some of the attributes of field research it does not entirely conform to the definition that Franfort-Nachmias and Nachmias (1996) put forward.

Triangulation and Validity

For Frankfort-Nachmias and Nachmias (1996) triangulation is useful in eliminating as far as is possible the inherent limitations contained within particular research tools. Findings based upon one method can be affected by the processes involved in that method. Such findings could be artefacts rather than facts. Triangulation also provides some information on the notion of inadequacy mentioned earlier. Triangulation is achieved in this study by the adoption of three different field research tools used over a period of time: all address aspects of the four questions in the study, although their emphasis on the issues is different. The questionnaire being the only one which attempts to address all four.

Frankfort-Nachmias and Nachmias (1996) and Robinson (1993) also indicate that using different research tools provides greater validity for any conclusions drawn from the analysis. Strauss and Corbin's (1990) view is that within a qualitative paradigm, validity can only be demonstrated by the extent to which it makes sense to the players in the context it claims to

represent. Measor (1985) says that in her qualitative study her personal, professional judgement formed part of this process of validation viz.: 'I felt that the data was valid' (p73).

'It may be that we have to come to terms with the intuitive, subjective elements of our work, because our work is with people' (Measor 1990. p74). To do so may help to bridge the divide between researchers and practitioners (Richmond and Smith 1990). During the past six years that the author has spent with this topic as a major part of his professional life, a sense of what is accurate has been formed. The interpretation of the data, as well as the obtaining of the raw data, is based on a large number of interchanges with educators over that period.

Sampling

A number of writers point to the importance of the sample in research, for example Cohen and Manion (1994), Erikson (1986), Wright (1997), Frankfort-Nachmias and Nachmias (1996), Schofield (1996), Wright (1997). In particular they emphasise the need for the sample to be representative of the population it claims to represent. The literature which discusses sampling assumes that the field researcher is in a position to make choices based upon clearly set out research objectives.

Two types of sampling techniques are described in the literature: probability sampling and non-probability sampling. In the former, each member of the target group has an equal chance of being in the sample. In the latter, this is not the case. The sample may be drawn against criteria which constrain the generalisability of the results achieved.

In the case of this field work the samples for the questionnaire were chosen against criteria given by the author to each special educational needs co-ordinator from each secondary school within one 'shire' LEA. The interviews of staff were in schools which chose themselves, by asking the author to conduct staff development on the topic of differentiation. In the case of the OfSTED inspection reports all the published reports available on a given date on schools within a county LEA were used to form the data base. Frankfort-Nachmias and Nachmias (1996) indicate that this form of sampling could be referred to as convenience sampling. That is selecting whatever is conveniently available. As such, it is a non-probability sample.

The extent to which these samples are representative of secondary teachers and of all secondary schools is open to question. They can be challenged on the grounds of self selection, under-representation of metropolitan areas, and insufficient stratification for age, gender, training, seniority and subject differences to be accounted for. These criticisms impinge only on the periphery of the study which has not attempted to take these variables into consideration. If they have any effect on levels of differentiation, a later study will need to explore the problems.

Given that the samples were taken over time, their size, geographical spread and distribution, the author is sufficiently convinced that they are representative of secondary schools and their staff.

Ethics

When undertaking field research that involves people there are a number of ethical issues which need consideration. Few writers on educational research mention ethics. It is presumed that educational research is a 'good'. The one aspect which receives mention is that of confidentiality: that subjects do not become identified within any publication of the data.

Robinson (1993) indicates a number of aspects which researchers should pay heed to, and draws attention to the British Psychological Society's code of ethics for researchers involving human participants. Sapsford and Abbott (1996) also give a range of issues to consider when research with people is employed. In relation to this study three aspects are of particular note: openness, informed consent and privacy.

Openness

Working with subjects requires the field researcher to be explicit with regard to the work being undertaken. Without this, subjects may ascribe to the researcher powers which they do not have (Frankfort-Nachmias and Nachmias, 1996). Measor (1985) and Oppenheim (1992) give examples of respondents in interviews, indicating that they hoped the information given would enable the interviewer to affect decisions being made. This may be an aim of the research overall, but a particular interview may not affect decisions within the interviewee's school. Along with this, Measor (1990) cites examples of the interviewee attempting, during the course of the interview, to ascertain if the information being offered is both required and

in the form the interviewer wants. The more open the interviewer is with regard to the need to gain the interviewee's views and understandings, the less likely the interviewer is to introduce bias into the data or to give a false impression to the interviewee about the powers he or she has (Oppenheim 1992). It will also reduce the likelihood of the interviewee only giving information which he or she believes is required by the interviewer.

Byram (1996) points to a further possible consequence of the 'interview' related to openness that of its potential 'pedagogic function'. He indicates that the interviewer needs to be aware that for the interviewee an interview:

> 'provides time, suspended from the real time of other social interactions, to reflect, to see how things fall into place, to establish the structures within which they relate to each other'
>
> p.86

This function of an interview can be the first occasion upon which the subject reflects or discusses the issue under scrutiny, though it may be part of their everyday professional practice. This was the case for some interviewees in this study. Interviews are not entirely neutral events they can have an effect on an individual's professional understandings and practice.

Informed consent

The extent of informed consent required is not universally agreed by writers (Robinson 1993, Frankfurt Nachmais and Nachmais 1996). Answering the question, 'what is an informed person', raises a number of issues for the field researcher. A subject fully informed of the

research aims and objectives could lead to the subject only giving responses which fit the hypotheses or, perversely, which do not. Alternatively, involving someone in research without their consent is considered by most writers to be unethical.

Frankfort-Nachmias and Nachmias (1996) indicate that the field researcher needs to come to a point of having 'reasonably informed consent'. They indicate that this is achieved by ensuring that subjects are competent, voluntary, have full information and can comprehend the purpose of the field research. 'Competent' in that the subject is capable of making a decision when given facts about the field research. By 'voluntary', Frankfort-Nachmias and Nachmias (1996) do not mean that subjects puts themselves forward, but rather that they can refuse to take part without consequences which would be detrimental to them. They also positively decide to accept any invitation to take part. Robinson (1993) supports this view. Measor (1990) indicates the need for volunteerism to be seen as a key factor in building relationships between field researcher and subject. Establishing explicitly the voluntary nature of the subject's involvement, particularly in interviews, will encourage the free flow of responses. Asking the participants to agree to take part in the field research also reflects a respect for the individual concerned. To be fully informed is, for Frankfort-Nachmias and Nachmias (1996) and Robinson (1993), to have a fair explanation of the procedures to be followed. This should give information of any risks to the subject, benefits they can expect, and allow them to ask any questions concerning these procedures, thus giving them the right to withdraw at any stage.

All the subjects in the questionnaire and interview field research were volunteers, competent, and fully informed. The issue of comprehension in relation to informed consent does not apply to this field research in that the:

> 'research procedure (was not) associated with
> complex or subtle risks'.
> (Frankfort-Nachmais and Nachmias, 1996 p.85)

Thus, the subjects concerned in this study can be said to have given their informed consent to take part.

The analysis of documents which are in the public domain does not pose problems with regard to informed consent.

Privacy

In obtaining responses from subjects the issue of privacy in relation to that information can affect the information given. Subjects need to be aware of the degree of privacy they are being afforded. In the field research presented in the study all the information was private to the author.

Private has two meanings. Anonymous: the researcher does not know the individuals providing the data; confidentiality: the researcher knows the individual but does not give this information to others when presenting the data.

Some of the data in this study was anonymous. The subjects answering the questionnaire were not require to give their names and it would be impossible for the author to track individual respondents. With regard to the interviews, respondents were assured of confidentiality. They are known to the author but their details are coded and the reader of this study would not be able to identify their schools and thus individual professionals. To achieve this degree of privacy the interviews were conducted in rooms where the respondent and interviewer could not be overheard nor interrupted. The last piece of field research utilises documents which are in the public domain and thus issues of privacy are not applicable.

3.2.2 The Questionnaire

Questionnaires are a common tool used by a variety of professionals to obtain information for a particular purpose. Though they vary in size, purpose, complexity, content and analysis, they all give information at a point in time (Cohen and Manion, 1994, Oppenheim 1992).

The literature exhorts researchers to design questionnaires which are: well presented, succinct, have a rational order, are simple to answer and where attention has been paid to the type of question asked. See for example: Oppenheim (1992), Cohen and Manion (1994), Frankfort-Nachmias and Nachmias (1996), who also advocate a pilot questionnaire be used to inform the suitability of a final version.

The reasons for the questionnaire used in this field research, as explained earlier, were directly related to the in-service work of the author, the timing of which did not allow for a pilot questionnaire to be used. Thus, the structure and presentation of the questionnaire relied upon the author's experience of designing and using this format for his own and students use. The Questionnaire was divided into four sections to cover four aspects of differentiation being addressed on the staff development days. In section one, 'beliefs' regarding differentiation were probed. Section two, sought to gather information regarding teachers' awareness of differentiation within national curriculum documentation. The third section was to ascertain teachers' definitions of differentiation. The final section was based upon an aim of the course which was to address issues within teachers' planning of lessons.

The results and discussion are presented later, with tables and graphical representations. These are followed by descriptive analysis. A full copy of the questionnaire and accompanying letter is enclosed in appendix two and three. The questionnaire was distributed towards the end of a period of several years when schools had received a large number of official documents in which the term differentiation occurred, the most influential of which was OfSTED (1992), 'The Framework for Inspection,' where differentiation was a criteria within the inspection process. Differentiation was also a section within each of the curriculum guidance documents distributed to all schools by the National Curriculum Council some eighteen months to two years, before the author conducted staff development days.

Questionnaire Content

The seven statements within section one of the questionnaire were arrived at via discussion with Advisers and Advisory staff within the LEA concerned, and through the author's wider discussions with teachers on previous staff development days. Section two simply sought to ascertain teacher's awareness of 'official' curriculum guidance documents in the subject they taught.

The first five items used in section three were derived from the literature. In discussions with the Advisers concerned it was decided not to quote definitions from the literature, leaving item six as an opportunity for teachers to give any definition which they may have found useful. A major factor in arriving at this decision was the problem of deciding which definitions to use from the many available.

The purpose of section four was to explore aspects of teachers' lesson planning. A list of items related to planning was constructed from a review of the literature (see for example Brown and McIntyre 1993) and previous discussions with teachers about their planning for teaching purposes. Respondents were invited to construct their own list using their own items if they preferred. The rationale behind the question was to see if there was any commonality in the manner in which teachers plan lessons. It was then considered possible to adduce potential reasons for the dichotomy, highlighted in the literature review, between the wish, on the part of teachers, to meet the needs of individual pupils and their teaching to the perceived average of a group.

Questionnaire Sample

The potential sample for the questionnaire consisted of all the staff involved with Key Stages three and four within one LEA. As this LEA had three middle schools, returns were received from them as well as from the thirty three secondary schools. In the subsequent analysis the returns from the middle schools were discarded, though they were utilised on the course, as it was impossible to separate responses for Key stage 2 (Primary) from Key Stage 3 (Secondary) teachers. The questionnaire's primary purpose was to provide a base of information for the special educational needs co-ordinators (SENCOs) attending the course, who were requested to select a range of staff to fill in the questionnaires. It was suggested that the range should take into account subjects taught and posts of responsibility within the school.

SENCOs were asked to bring five completed questionnaires to the staff development days. The completion of the questionnaires was seen as part of their preparation for the two day course and this would have had an effect on the return rate achieved. From information given orally on the first day of the course, it was apparent that one or two SENCOs had not had any questionnaires completed. Most had followed instructions and three or four had photocopied the questionnaire and completed more than five. From the point of view of this study the analysis was concerned with educators' views regardless of their individual secondary school. Thus, all the returns which were from secondary school staff were included in the analysis.

Frankfort-Nachmias and Nachmias (1996) indicate that a clear purpose for the use of the data are factors affecting the subject's response rates. It should be further noted that as the questionnaire was personally given to individual respondents by the SENCO and collected by them the return rate did not incur the problems normally associated with mailing. This is an important factor in the high return rate achieved.

A covering letter giving SENCOs the details outlined above and indicating the confidential nature of the questionnaire was sent out, under the author's signature via the LEA's internal mail. It was sent approximately a week before the start of the course. At the end of the course the questionnaires were handed in to the author for his use.

Questionnaire Sample Data

Potential Sample size:

Number of secondary schools and middle schools = 36;

Each SENCO asked to bring five completed questionnaires, thus 5 x 36;

Potential maximum sample size was 180 inclusive of the middle schools.

Number returned: **149** gives an overall 82 % return rate. The points made above regarding the returns received should be borne in mind.

Distribution by School (n=149 returns)

Unknown	8
Middle schools (3)	13
Secondary schools	128

Given thirty three secondary schools, a total of 165 returns could be expected. The actual number (128), gives a return rate of 77.6%.

Distribution by subject in secondary schools n= 128

Unknown	0
English	19
Mathematics	21
Science	20
Modern Language	18
Humanities	18
History	1
Geography	3
Technology	7
Religious Education	1
Physical Education	5
Art	2
Special Educational Needs	13

Distribution by status in secondary schools n=128

Unknown	1
Senior Management Team	18
Head of Department	39
Head of Year	5
Main Professional Grade	65

Non-response error caused by those who did not respond can introduce substantial error in the data (Oppenheim, 1992; Frankfort-Nachmias and Nachmias, 1996). As can been seen from the above those who chose not to answer all or any of the questions were an insignificant number. Responses to the last question (on the questionnaire) were, however, not so straight forward and will be discussed later.

3.2.3 Interviews

Oppenheim (1992) divides interviews into two kinds: exploratory and standardised. The former, he says, are free-style interviews which seek to explore a topic in depth; the latter are highly structured and used to gain survey data which can be dealt with in a quantifiable manner. Robinson (1996) indicates that these approaches are often referred to as non-directive and directive interviews. Frankfort-Nachmias and Nachmias (1996) indicate that there are three types of interview: the scheduled-structured interview; the focused interview; and the non-directive interview. Cohen and Manion (1996) have a similar division to this indicating that the focused interview can have a range from less formal questioning to completely informal questioning. The format adopted for the interviews which form part of this study was the focused interview. A focused interview approach has a structure but also allows 'for ramblings which show which factors are important to the interviewee' (Measor 1985).

Potts (1992) indicates that this approach also allows for a process which is more than the simple process of extracting information from the interviewee. The structure for the focused interviews was derived from the four questions outlined as of concern in this study. The interviews were conducted with respondents who have experience of the topic under discussion, and they referred to situations respondents had some prior notice of. These factors are for Frankfort-Nachmias and Nachmias (1996), indicators of a focused interview.

The opportunity for these interviews arose as part of the in-service training work undertaken by the author, described earlier. Thus problems (Measor 1985) of negotiating access and

mutually convenient times to conduct the interviews were, to a large extent, precluded by the nature of the invitation to the author in the first instance. Though, as not all subjects were available on the days set aside for the interviews, further mutually convenient times were negotiated.

In each case the school chose the staff for interview against criteria that the author discussed with them. Burgess (1985a) indicates that the field researcher should ensure that the subjects chosen for interview are key informants with a sufficient range of knowledge and experience on the topic. Thus, criteria for those interviewed provided for a range of competence and experience in teaching, seniority in the school and represented different subject areas. The author specified that those interviewed should include the head, the deputy responsible for the curriculum, a head of department, and a teacher with responsibility for special educational needs. In all the schools members of staff from this range were willing to take part in the interviews. In one school the special educational needs member of staff was willing but logistics, followed by a prolonged illness, meant that he was unavailable for interview.

The schools were written to outlining the arrangements and provided with a set of briefing papers. The briefing paper intended to give the interviewees an indication of the nature of the interview in broad terms, in order that they could give some thought to the issues beforehand and to be open to the purpose behind the interview. It was clear from the interviewees that all had been given a copy of this paper, though some admitted to having only glanced at it before coming to the interview.

Each interview was approximately forty-five minutes long. The interviews were conducted in the schools concerned, usually in a room set aside for the author's use while interviewing. The common exception to this was the interview with the headteachers, which in each case was conducted in his or her room. With one or two exceptions the interviews were free from interruptions. Interviewees were informed beforehand that the interviews would be tape recorded and their permission to do so was sought at the start of each interview. Each interview was transcribed. Interestingly, no interviewee asked to view the transcript though this facility was offered.

Measor (1985) stresses the need to build relationships between interviewee and interviewer in order to obtain quality information. She goes on to discuss various factors which can affect the quality. She notes that the interviewer should pay attention to:

- appearance and presentation;
- non-verbal communications, gestures, comments and actions;
- critically awareness - listening for 'pointers which lead into meaning of what is being said and for data which fit the themes of the research;
- enthusiasm about the subject.

The fact that the interviewer in this instance is a university lecturer, engaged by the school to support its staff development would have had some bearing on the nature of the interviews. It was important for the interviewer to bear in mind Measor's (1985) advice above, and Potts' (1992) view that the interview would provide the basis of a 'professional relationship' later.

Byram's (1996) dictum that the interview could have a pedagogic function was apparent in some of the interviews.

Each interview began with a brief introduction which established that the interviewee was there voluntarily and was aware of the nature of the interview. Measor (1985) writes that putting the interviewee at ease by taking the first few moments to describe the nature of the interview, getting verbal permission to tape record, perhaps with some humour, is crucial in settling the interviewee prior to starting the interview itself.

Both Oppenheim (1996) and Measor (1985) advise interviewers to be aware of the interviewees' needs to feel that they are contributing what the interviewer wants; interviewees using statements such as ' is this what you want,' to indicate this. They suggest that people feel that being interviewed is somehow self indulgent. Importantly, Measor (1985) reports that teachers indicated at the end of the interview and off - tape, that it had been really interesting talking about their teaching as though this was not something that happened with any frequency, if at all. The author was in receipt of similar comments at the close of a number of the interviews. Measor (1985) believes this to be a cultural phenomenon:

> 'Goes against a cultural value - one about not talking too much about oneself.'
>
> p.67

This accords with Bryam's (1996) and Robinson's (1996) views on the value of interviews to the interviewee, with regard to their work.

It is important to note at this stage that interviews break one of the tenets of qualitative research: that of gaining data from natural settings. The interview itself is a contrived situation though taking place within the natural setting of the interviewee's school.

During the course of any interview, Measor (1985) indicates that the interviewer needs to be aware of sensitive and danger areas for the interviewee. This is often signalled by interviewees prefacing their comments with a request for reassurance about confidentiality of the interview. There were several occasions when this occurred in the interviews included in this study. They usually related to disclosures of views regarding the organisation and running of the school or a particular member of their staff's professional practice.

Logistics of the Interviews

Only one interviewee (the headteacher of KH) refused to be taped despite being aware from the initial request that the interviews would be taped. This interviewee expressed her reservation in strong terms and was not open to any persuasion. The author took the decision to take notes rather than abandon the interview altogether. As notes are inevitably only a very partial representation of the interview they have not been used in this study.

On two occasions the machinery involved failed to record the interview at all. On one occasion this was operator error, as the author failed to check that the recorder was properly switched on. On the second occasion the tape proved faulty.

More important was the difficulty in getting interviewees to record clearly. This was in part a problem of the machinery used. Two systems were used: a small dictaphone with a built in microphone, and a portable tape recorder with a desk-top microphone. The former was useful in that its presence was not obtrusive and participants lost any inhibitions about being recorded quite quickly. However, it was not efficient in picking up those interviewees whose voices were soft and somewhat indistinct, as in the case of the headteachers of WH and SH Schools. A second problem with this particular machine was that checking the controls and amount of tape left in a non-intrusive manner to the discussions was not easy, and led on one occasion to the non-taping of an interview.

The second machine used did not suffer from these problems but was much more obtrusive to the interviews and gave more formality in the interviews. The machine was bulky in size with a large table microphone. The refusal of the headteacher of KH school to be recorded was due in part to its obtrusiveness.

Transcribing Tapes

Each tape took between six and eight hours to transcribe by hand and subsequently record (type up). At this stage some editing took place to delete some of the extraneous phrases which indicated that the listeners were listening, and were not integral to the line of thought being pursued. Transcription did not include any notes of non-verbal signals nor of any interpretations of the pitch, tone, inflection or emphasis of the speakers. This depth of transcription was not deemed necessary at the time. The transcriptions began at the point the

tapes were started which was when the interviewer asked the first question, and finished with the interviewer thanking the interviewee for their time.

Record of interviews

	School	Professional	Taped result
1	KH	Team leader technology	taped
2	KH	Sociology/English	taped
3	KH	Science	taped
4	KH	Headteacher	refused tape
5	KH	Deputy Headteachers	tape failed
6	SH	Headteacher	tape failed
7	SH	English	taped
8	SH	Deputy Headteacher	taped
9	SH	Geography	taped
10	SH	Headteacher	tape too indistinct to transcribe
11	SH	Head of Maths	taped
12	WH	English	taped
13	WH	Drama	taped
14	WH	Modern Languages	taped
15	WH	Deputy Headteacher	taped
16	WH	2nd Deputy Headteacher	taped
17	WH	Special Education	taped
18	WH	Headteacher	tape indistinct only of partial use

Total number of useable interviews = 13: of partial use = 2: of no use because tape failed to record = 2: and one interviewee refused to have the session recorded.

Transcript Analysis

The transcripts of the interviews were analysed using content analysis. Content analysis is the technique for making inferences by systematically and objectively identifying specified characteristics of messages (Frankfort-Nachmias and Nachmias, 1996). Johnson and LaMontagne (1993) indicated that content analysis reduces communication into discrete categories according to a set of predetermined stages, which are:

1. preparation of the data for analysis
2. familiarity with the data
3. identification of units of analysis
4. definition of tentative categories for coding the responses
5. refining categories
6. establishing category integrity.

A process which Charmaz (1995) indicates as integral within grounded theory.

Content analysis can also provide a structure for further investigation in depth and detail. The process allows for flexibility of patterns to emerge from collected data, enabling 'invisible ' knowledge to emerge from stake holders i.e. teachers.

3.2.4 Document Analysis:OfSTED

The analysis of the OfSTED inspection reports was completed by using the paradigms of document analysis since they constitute secondary data. Secondary data analysis is based on

the research findings of others which may have been for a different purpose has a long history within the social sciences (Robinson 1996, Finnegan 1996).

Frankfort-Nachmias and Nachmias (1996) postulate three reasons for the use of document analysis: conceptual-substantive, methodological, and economic. In discussing these they give further sub-reasons, amongst which are triangulation. Triangulation discussed above is the main reason for its inclusion in this study. It is also an economic means of obtaining data from material since the inspection reports are easily available on the Internet.

There are limitations to the approach as the documents only approximate to the questions being raised. Their purpose and function are not for the purposes of published research. Whilst they may have their own internal consistency they have not been subjected to the more rigorous methods employed by the research community. It should, therefore, be borne in mind that the data base from which these reports are constructed is different in purpose and construction from that used by researchers. For this study these issues are unimportant since the purpose of the analysis is to ascertain how inspectors use the term differentiation and report on it.

However, some understanding of how the reports are compiled is important in understanding the data. OfSTED inspection reports are written under a time pressure and within a set structure. Inspectors have to give judgements on the school as a whole as well as on individual subject areas. They are written for a public audience and form the end product of

the process of inspection. They are judgements made by inspectors on the basis of an examination of school documents, discussion, interviews and observations made over the course of four to five days in the school. They do not contain absolute truths. Jupp (1996) indicates that such official documents provide valuable data for any investigation of official definitions of what is:

> 'defined as problematic, what is viewed as the explanation of the problem, and what is deemed to be the preferred solution'
> (p302)

The OfSTED Reports

The OfSTED Inspection reports used are drawn from a different shire county than the one used in the questionnaire data. They consist of all the reports available on the Internet for the Authority concerned in March 1996. This date has significance as the Authority concerned ceased to exist from April of that year under the reorganisation of local government. At this time it had fifty nine secondary schools and twenty two reports were available.

3.3 Presentation and Discussion of Field Work

3.3.1 Questionnaire Results and Discussion

The results are presented and discussed in the four sections which constituted the questionnaire. Within sections one, three and four the results are examined in relation to teachers on main professional grade (MPG) and senior staff (ranging from heads of subjects and year to head teachers).

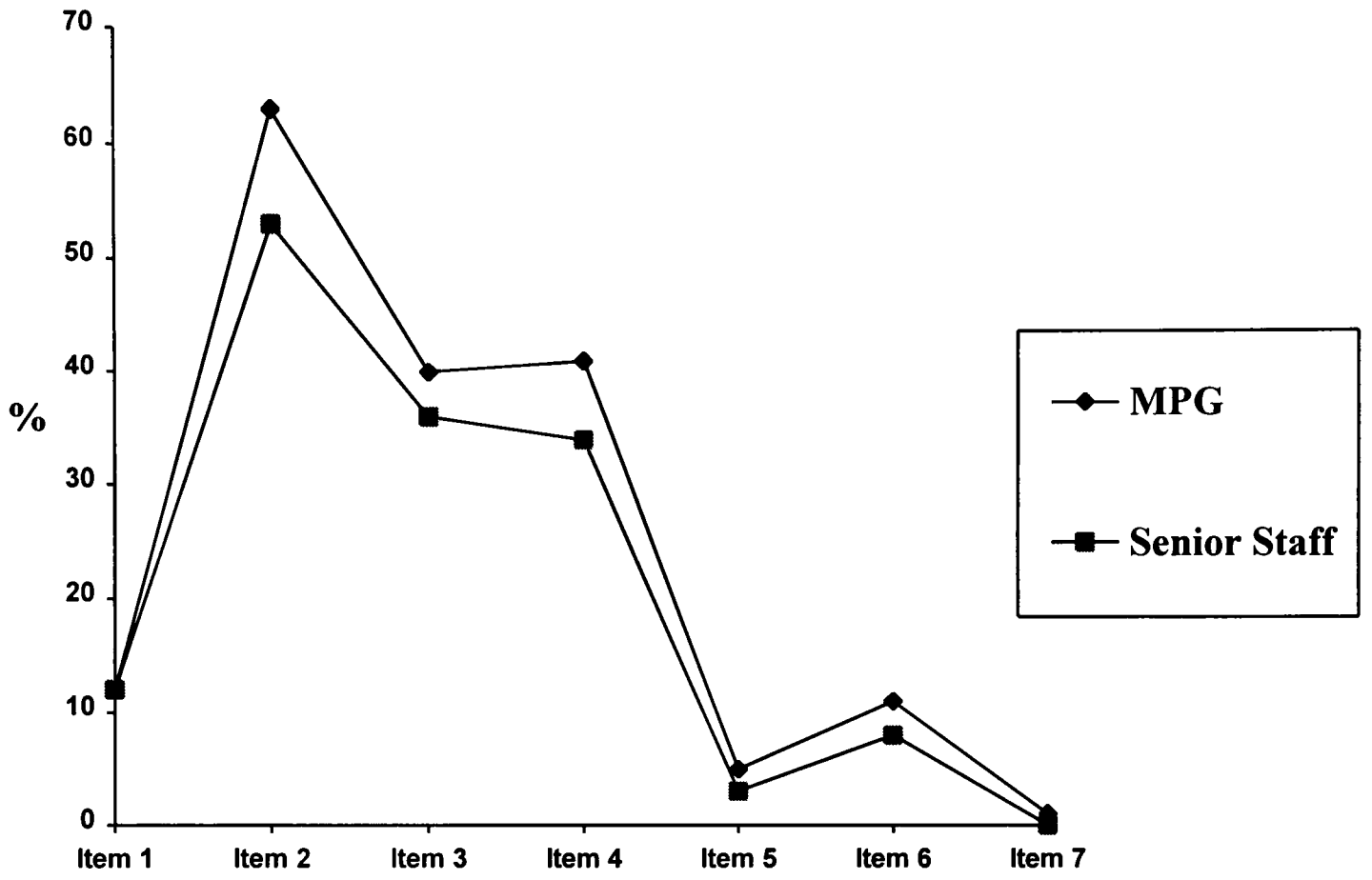
Section One. Beliefs about Differentiation

Figure 1.0 Responses to Section One

6 respondents failed to answer this question N=122

		Total poss. = 122	MPGs = 65	Senior Staff = 59
1	Differentiation is a new skill teachers need.	15=12%	8 =12%	7=12%
2	Differentiation is a skill all teachers have to some degree.	77=63%	41=63%	31=53%
3	Differentiation is a skill some teachers have.	47=39%	26=40%	21=36%
4	Differentiation is a skill some teachers are poor at.	47=39%	27=41%	20=34%
5	Differentiation is only necessary in mixed ability teaching.	5= 4%	3= 5%	2=3%
6	Differentiation in my subject is more difficult than in others.	12=10%	7=11%	5=8%
7	Differentiation with secondary aged pupils should not be necessary.	1= 1%	1=1.5%	0

Figure 1.1 Trends in responses to section one



This section sought to ascertain teachers' views of differentiation: respondents could tick more than one item. Figure 1.0 shows that teachers felt overall that differentiation was a skill which teachers had (Items 2 and 3). Over one in ten felt that it was a new skill that they needed to acquire (Item 1). Very few felt that it was not necessary within the secondary phase of schooling (Item 2). Equally teachers did not view differentiation as only necessary when coping with mixed ability classes (Item 5). One in ten of the respondents felt that within their subject differentiation was more difficult (Item 6).

The trends in terms of peaks and troughs of responses are similar regardless of the position and, by inference, the experience of staff (Figure 1.1). There is some evidence that senior staff have a more negative view of the skill base of teachers as regards differentiation (Items 2 and 3).

Data from this section supports the view that differentiation is seen by teachers as a skill that they have which may need to be enhanced and that it is not a skill appropriate only to certain groupings of pupils.

Section Two. Differentiation and National Curriculum Documents

Figure 2.0

Responses to Section Two

No response = 18

Response to either or both questions = 110

Response Rate = 86%

	Yes	**No**	**Nil return**
Question 1	94 (85.5%)	6 (5.5%)	10 (9%)
Question 2	55 (50%)	39 (35%)	16 (15%)

This section posed two questions, the first, to ascertain if teachers were aware of national curriculum guidance in their subject area; the second, to see if they were aware of the differentiation guidance contained within those documents. The responses to the first question, figure 2.0, show that the majority of teachers were aware of guidance documents. Of the eighteen responses (14.5%) indicating response to either question, eight indicated that

their subject was special educational needs. No specific curriculum guidance was published for special educational needs as a separate subject. Those responses from special educational needs teachers (four) which did indicate the existence of a guidance document could have in mind NCC (1989c) which discussed curriculum access for pupils with special educational needs.

Figure 2.0 also shows that the respondents were less aware of the differentiation guidance contained within the documents. Only fifty percent knew of any guidance. When broken down by subject it appears that those teaching mathematics, science and humanities were the least aware, accounting for thirty three of the thirty nine negative responses to question two. The number of nil responses to question one was 9%, 15% for question two. The increase may be an added indication of an unawareness of the guidance on differentiation in the documents. The most aware appear to be those teaching modern foreign languages. Here, out of eighteen possible responses, only one was unaware and two made no response at all. This may be because this group were previously the most likely to exclude groups of pupils from taking their subject. This was no longer possible under the National Curriculum and they were more aware of the range of pupils they had in their classes.

Section Three. Defining Differentiation

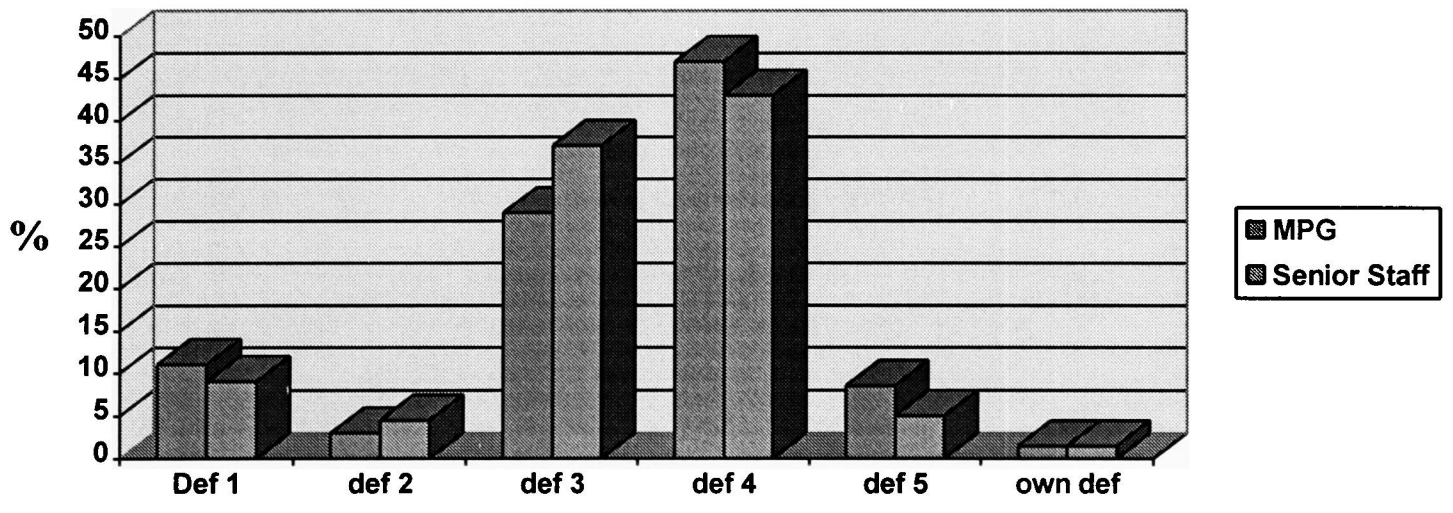
Figure 3.0

Responses to Definitions (N= 128) (the nil response has been disregarded in the analysis)

	Def.1	Def.2	Def.3	Def.4	Def.5	Own Def.	No Response
MPG (N=65)	6 (9%)	3 (5%)	24 (37%)	28(43%)	3 (5%)	1 (1%)	1
Senior Staff (N=62)	7 (11%)	2 (3%)	18 (29%)	29 (47%)	5 (8%)	1 (2%)	0
Totals (N=127)	13 (10%)	5 (4%)	42 (33%)	57 (45%)	8 (6%)	2 (2%)	1

Figure 3.1

Distribution of Choices



In this section of the questionnaire respondents were given the choice of five definitions of differentiation which were derived from the literature and remarks made to the author by teachers. They were to tick the one which was most appropriate to their understanding of differentiation, or could give their own definition. Only two respondents chose to write

down their own version. The reason for this could be one of time rather than a lack of a difference of opinion to those given. Unless the respondents were familiar with a particular definition of differentiation they may tend to tick one of those offered rather than take the time to consider one of their own. Only one respondent failed to give a response in this section.

Figure 3.0 indicates the total raw numbers of respondents who opted for each definition, separated into main-professional grade (MPG) and senior staff. Of the definitions offered, numbers three and four were those most agreed with. Definition three centres on a match between learning needs and the content of teaching, whilst four centres upon teaching methods and planning to cater for individuals. These two definitions most closely accord with the pedagogic view of differentiation put forward in this study.

Definition one which links differentiation with outcomes was favoured by ten percent of the total sample. Definition two which linked differentiation to underachieving pupils, was only favoured by a few respondents. Definition five which focused upon judgements and procedures to accommodate differences in pupils attracted eight responses. Its wording implied teacher involvement but did not explicitly state it and this may be one reason for the low response. Alternatively teachers may have interpreted it as more administratively oriented.

A further explanation of the spread of responses could be that in reading through the definitions respondents ticked the first one they came to which seemed to agree with their own views and then moved on to the next section. The rubric for this section did not explicitly ask them to read all the definitions before ticking one.

Of the two who wrote their own definitions, one must have had previous knowledge of the author's work since the definition given was nearly word for word that of the author's (Visser, 1993a). The second gave a definition which revealed a cynical view of the use of language within the profession.

Section Four. Differentiation and Lesson Planning

Table 4.0 (n=87)

	Item	No.of Times chosen	Rank
1.	specify desired outcome	55	6
2.	identify the learning task	69	3
3.	identify the material resources that are available	73	1
4.	choose programme of study	37	10
5.	decide on a teaching strategy	72	2
6.	identify attainment target(s) to be covered	40	9
7.	identify the class/group being taught	60	5
8.	consider the implications for teacher assessment	29	11
9.	identify the strands being covered	20	12=
10.	identify the learning strategies pupils have or may need	44	7=
11.	consider pupils' individual learning needs	67	4
12.	remember what worked last year	20	12=
13.	ensure that it covers a possible SAT topic	7	14
14.	consider issues of classroom management	44	7=

In section four, respondents were invited to consider sequences in their lesson planning. To aid their thinking a list (figure 4.0) of possible items in such a sequence was given in random order.

Most respondents (68%) used items from the list given and marked them in the order which they said occurred in their planning of lessons. A significant number (19.5%) created their own lists with one or two respondents giving extended comments. An eighth of the sample (12.5%) either failed to prioritise their lists, just ticking items on the given list, or made no response to this section. The distribution of responses between senior staff was proportionate to their distribution in the sample in all these instances of responses. The

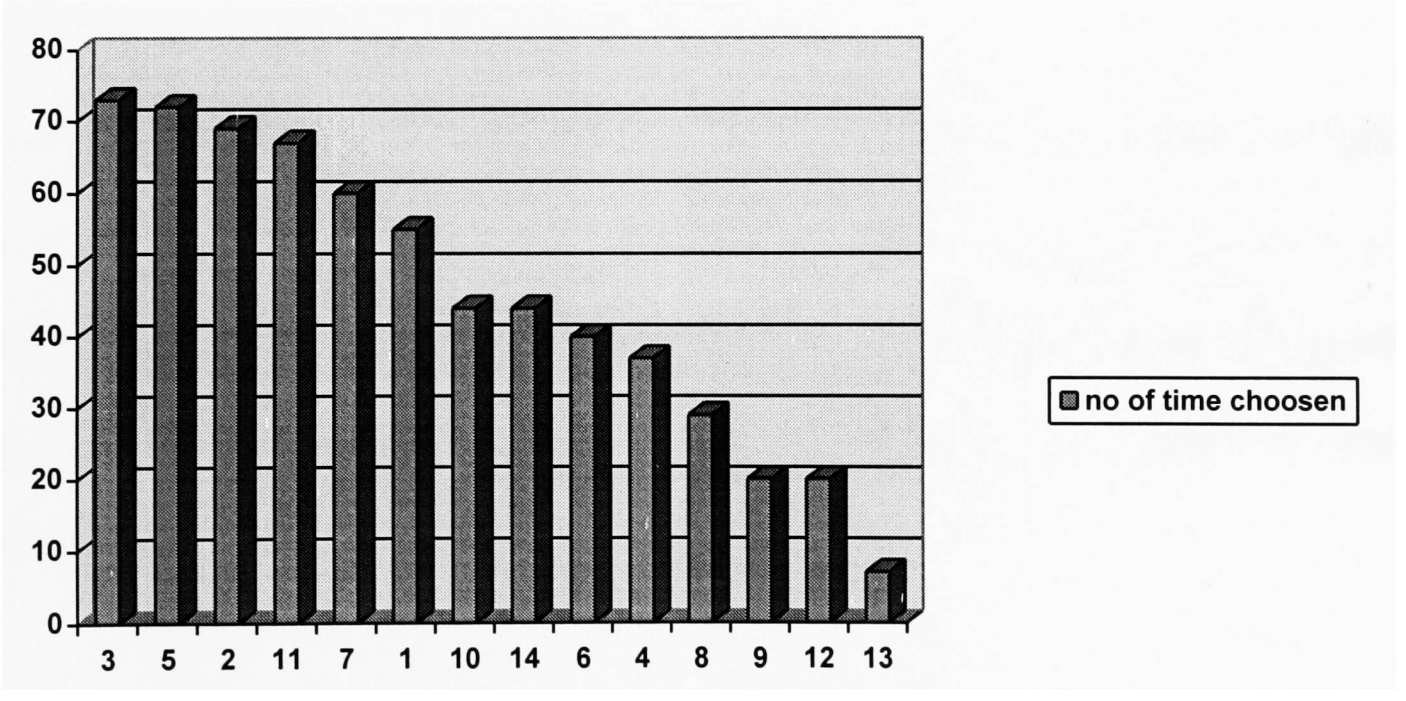
analysis proceeds in two parts: first those respondents who use the items given, and secondly, those respondents who constructed their own list.

Respondents using the items given

Figure 4.0 shows the number of times respondents chose each item and the overall rank order. The total possible number of responses any one item could have obtained was eighty seven (68% of the total sample) and it is worthy of note that no item was chosen by all teachers. This may be because of perceived overlap between items. For example items one and two could be seen as covering very similar ground. None the less there was only one item which focused upon the use of resources and fourteen respondents failed to list this as occurring in their planning of lessons. The rank order suggests that certain items have more importance overall for teachers in their planning than others.

Figure 4.1

Items chosen in rank order



The rank ordering of the items (figure 4.1) indicates that three items (9,12,13) were infrequently chosen. Items 13 and 9 were possibly perceived as more administratively based. The questionnaire was distributed before the impact of the publication of league tables based on SAT results. Should this section of the questionnaire be placed before teachers currently they may perhaps place items, which they perceive as relating to league tables, higher on their list of priorities. Use of item 12 indicates that teachers believe that previous experience of teaching a topic played little or no in their planning. It is possible that teachers saw item 12 as worded pejoratively and therefore avoided including it rather than that teachers do not reflect upon and use their past experience in formulating teaching plans. Issues of classroom management appear to be low overall in teachers' planning of lesson. This does not accord with the concerns often expressed by teachers about classroom behaviour. (See for example Elton, 1989). A possible explanation is that secondary teachers perceive little relation between planning lessons and the classroom management issues which occur during their teaching.

The group of items which achieved the most responses could be considered core issues for teachers in their planning. They relate to what is to be taught (item 3 and 2); how it is to be taught (item 5); to whom (items 7 and 11) and with what outcomes (item 1). It is worthy of note that more teachers consider teaching strategies and resources (items 5 and 3) to be part of their planning than pupils learning needs (item 10).

Figure 4.2. Distribution of ordinal position of chosen items

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Position														
1st	9	20	0	9	1	2	50	1	1	2	7	0	0	0
2nd	19	15	9	5	6	7	3	0	2	3	7	1	1	0
3rd	7	11	10	8	7	7	3	0	4	12	8	4	2	2
4th	7	12	14	8	12	6	4	2	3	8	11	3	1	5
5th	6	4	14	5	14	1	0	2	3	9	10	1	0	7
6th	4	2	11	1	14	6	0	4	2	5	9	3	0	9
7th	1	4	7	0	12	5	0	2	1	1	8	1	1	9
8th	0	0	6	0	3	3	0	8	0	2	6	3	0	2
9th	0	0	1	0	2	1	0	5	1	2	1	2	0	6
10th	1	0	0	0	1	0	0	4	3	0	0	1	0	1
11th	1	0	1	0	0	0	0	1	0	0	0	1	1	1
12th	0	1	0	0	0	0	0	0	0	0	0	0	0	0
13th	0	0	0	1	0	0	0	0	0	0	0	0	0	0
14th	0	0	0	0	0	0	0	0	0	0	0	0	1	0
MEM	55	69	73	37	72	38	60	29	20	44	67	20	7	44

(MEM= Total number of mentions)

Figure 4.2 shows the number of times each item was placed in a particular ordinal position by respondents. The total number of possible responses for any one item was 87. The pattern of distribution of ordinal positions shows that items 3,5,2 and 11 though chosen most often (figure 4.1) do not always occur as the first choice. It is item 7 which would appear to be most teacher's starting point in planning lessons with item 2.

Figure 4.2 also provides an indication that few teachers have a planning process which has more than eight items in it. This is shown by the lack of ordinal positions recorded after the eighth position. There is some evidence from a visual comparison between the distribution of responses within each item that decisions regarding resources (item 3), the learning task (item 2), the identification of the class (item 7), the desired outcome (item 1) are higher in the

overall order of teachers' planning strategies in comparison with decisions on teaching strategies (item 5) and individual pupils' learning needs (item 11).

Respondents using own list not using offered items

Some 32% (41) of respondents chose not to use the items given. Of these forty one, six made no response to this section and two listed items but in such a manner as to make the establishment of their priority difficult. Thirteen gave their own lists and twenty one chose to respond to the section by giving a range of comments on their planning for teaching.

The comments offered by the group who did not offer any list raised a number of points. The author has grouped these below. There are those for whom planning is different according to circumstances. They offer comments such as:

'differs every time'	respondent 25
'order varies with the subject I'm teaching'	respondent 40
'they are all considered, but the balance varies with the topic, assessment requirements and needs of classroom management'	respondent 141
'each lesson is a variation with the time of day playing a part'	respondent 144

Two respondents in different subject areas indicated that all their planning was taken care of by their schemes of work. A further respondent said:

> 'It's all given either in the National Curriculum or programmes of study or attainment targets or the subject syllabus'.

and goes on to say:

> 'I'm afraid not enough thought is given to identifying the individual strategies of teachers or pupils'
>
> respondent 135

Several comments noted the inappropriateness of a linear understanding of planning as indicated by the following:

> Couldn't give a linear list... feel that it is a double loop planning cycle... all elements continually re-considered'.
>
> respondent 139

This last point is particularly important since in subsequent discussions with teachers the author has had to stress that any model of planning that emerges is a simplification of what is acknowledged to be a complex process: planning by teachers is not a linear sequence. Teachers have indicated that there is a continual cross checking of items. However, this author would assert that once an item has been considered the decision reached seldom undergoes a major re-think, thus the initial order in which teachers consider items plays an important part in arriving at the final plan.

3.3.2 Analysis of Interviews

The purpose of the interviews was two fold: to provide an understanding of the school's approaches to teaching and learning which would inform the planning of their staff development days; and secondly, to provide evidence of teachers' understanding of differentiation. The analysis within this study relates to the second purpose more that the first and proceeds from that perspective.

Drawing out categories within analysis involves a series of judgements, each with a level of subjectivity on the part of the author. The level of subjectivity was reduced as each sequence of interpretation and categorisation was tested against content analysis methodologies which including:

- the literature reviewed earlier in this study;
- discussion with colleagues;
- asking a colleague with experience as a teacher, headteacher and HMI to read the interviews and comment on the interpretations made.

The process accords with the suggestions made by Johnson and LaMontagne (1993) and Charmaz (1995) as discussed earlier.

The analysis presents the categorisations made from the interviews. Contexualising and interpreting them is left to the last section which utilises them together with the other pieces of field work, the literature and the author's experience in presenting a model of differentiation in practice.

In order for others to test the analysis made and perhaps to use the discourse more widely, the transcripts of the interviews are included in appendix five.

The analysis centres upon the three questions which were asked in these semi-structured interviews:

- What is differentiation? - defining differentiation

- How do you differentiate? - how teachers differentiate
- What 'factors' affect your ability to differentiate? - factors affecting differentiation.

Within each of these areas categories of response were created some of which contained sub-categories. (see table 5.0). Once more in this study the author needs to indicate that the areas created should not be seen as independent of each other. They are presented here as discrete areas but contain notions and thoughts which overlap.

Table 5.0

Categories and Sub-Categories

Definitions	
Grouping by classes (4)	
Grouping within classes (7)	
Individual Pupil Needs	- ability (12) - achievement (6) - equal opportunities (2) - wider (1)
How teachers differentiate	
Prefacing Remarks (4)	
Planned	- to the middle (8) - task (7) - pupils (3) - overtime (3)
Unplanned	- default - outcomes (13) - assessment (5) - happens (3) - professional skill - questions (12) - support (5)

Factors affecting differentiation

Classroom Centred	- pupils (12) - curriculum (7) - resources (9) - physical environment (1)
Professional Considerations	- training (10) - confidence (6) - workload (7) - teaching (5)
Time (18)	

* numbers in brackets represent the number of responses in each category. It is possible that more than one response per respondent was placed in a category or sub-category.

Defining Differentiation

The definition of differentiation in these interviews reveals an idiosyncratic approach to understanding the act of teaching on the part of teachers. It is also apparent that few teachers have a perception of differentiation which they can clearly elucidate; at least initially. This is shown by responses to the opening question of the interviews, for example:

> 'I would describe differentiation in two (sic) area; differentiation of material, differentiation of task; differentiation of learning styles' adding later and assessment (15WH)

> 'I think its everything, how can one individual child can achieve- erm - its really hard - I mean because it is everything - its really what learning is about.' (1KH)

As the interview progressed some respondents revised, augmented or refined their view of differentiation:

'I see it as a three-band situation'

which is later revised

'differentiation would be when a child leaves the classroom feeling they've achieved'

and then refined to

'a teacher employs a number of strategies to achieve a high level of differentiation' (16WH)

During the course of the interview this respondent progresses from seeing differentiation as a grouping exercise through to teaching style. A number of the responses similarly show that definitions of differentiation varied during the course of an interview.

The grouping of pupils at school level by streaming, setting and banding was seen as differentiation by interviewees 2KH, 9SH, 11SH, and 16WH.

'We used to call it banding and streaming...
its breaking them up into groups' (1SH).

Others see differentiation as grouping pupils within their classes (2KH, 3KH, 7SH).

'you have two or three different groups within the class' (7SH).

A third group saw differentiation as understanding an aspect of individual pupil needs and meeting these within the classroom. (1KH, 8SH, 9SH, 13WH, 14WH).

'Erm - I think it's.... knowing what the child's needs are' (1KH)

Needs were frequently defined as the pupils' ability though some respondents mentioned pupils need to achieve as well (8SH, 12WH, 14WH).

'Kids doing work that gets the best out of them' (14KH).

In defining differentiation, this latter group appeared to have more of a process orientation to differentiation. They speak of the need to understand pupils and what they do. This reflected an understanding of pupil diversity which they saw as impacting upon their teaching. This diversity was largely seen, as indicated above, as differences in ability. One respondent defined differentiation in terms of equal opportunities where issues of race and gender need to be acknowledged (12WH). Only one respondent indicated that differentiation involved taking into consideration a wider consideration of pupil diversity:

> 'how they learn best, what they are interested in and how how they can improve on what they are doing. How it makes sense to them' (1KH).

This respondent was one of the few who saw pupils' learning affecting his teaching style, and included this in his view of what constituted differentiation. Other respondents did not mention pupils' learning styles within their definition of the term, as they saw this aspect relating more to the action of differentiating.

How teachers differentiate

The second phase of the interviews asked teachers to describe how differentiation takes place in their classroom. The responses given fall into one of the following categories:

- prefacing remarks;
- planned;
- unplanned

A number of the interviewees prefaced their remarks on how they or colleagues differentiated by passing comments or making remarks about the nature of differentiation. Responses placed in the planned category indicated that there was some action which was thought through before the teaching took place. Comments which had an element of 'happening by chance' during teaching were categorised as unplanned. This is not to imply that teachers acted in an unprofessional manner but rather their actions were not premeditated in detail.

Prefacing comments

Respondents saw differentiation as a dynamic part of their teaching which covered, for most of them, several different aspects in planning for a lesson. Four respondents saw differentiation as a complex aspect of their teaching and one which required a high degree of professional skill: 'difficult to manage within the lesson' (1KH). This respondent also indicated that differentiation was a very subtle process requiring the skills of a 'plate spinner'. Another respondent gave the reply ' with great difficulty - er...like everybody else' (14WH). These prefacing comments could also reflect a need on the part of the respondent to gain 'thinking time' before answering the question.

Planned

Within this category, the author has placed comments which relate to the act of teaching and the organising of pupils. Given the number of respondents who defined differentiation in an organisational manner, it is surprising to find that teachers do not explain the reasons why

they group pupils. Their teaching plans reflect different groupings which are, for the most part, assumed as being there within their classes.

> 'at least assess their reading ages, so I know I could pitch something in the middle' (2KH)
>
> 'I'll pitch it somewhere in the middle' (9SH)

These responses indicated that this was considered a starting point from which differentiation was developed.

Differentiation by task is usually planned for by respondents. These tasks may be open-ended but are more usually related to worksheets (1KH). These are often directly, or by implication, based upon a three worksheet model of either: a less able, average or, more able pupil, which reflects core and extension work with a 'must - should - could' progression.

For example:

> 'first of all you decide the core of the topic for your student to understand.... I have extension activities and then those able to, can' (2KH)
>
> 'its a case of producing three pieces of the information' (3KH)
>
> J. You'd be saying differentiation is a worksheet for the least able, one for the middle group and one for the more able?
>
> T. Yes. (8SH)

For one respondent the planning of lessons takes cognisance of the pupils they are teaching in terms of knowing how they learn and he wished to ensure that lessons give them opportunities to learn in new ways:

> it would not be appropriate to allow a particular child to learn in a particular way all the time (15WH)

Two further respondents mentioned individual pupils in their planning related to differentiation. One did so in terms of being able to identify those who could be 'pushed slightly ' (2KH) so that the pupil would be extended and able to move on to a higher group. The second respondent (12WH) indicated that his planning considered the pupil's needs for support and the accessibility of the text in terms of its interest to the different genders in the class.

Respondent 15WH mentions that in a teacher's planning of lessons he expects the teaching style to vary over time thus providing for the different ways in which children learn:

> (Teachers need) ' a variety of approaches which would cover a period of time target all the children... I can think of children who talk to me, or talk to the class, or talk to their little group about their work, about a book they have read or about a poem far better, far more congenially than they could write about it'

One teacher saw his differentiation as being, in part, led by the scheme of work he was using which provided him with a number of cards at different levels which children followed on an individual basis (11SH) experiencing (as he saw it) different ways of learning overtime.

Unplanned

Descriptions of how teachers differentiate which have been ascribed to this category fall into two sub categories: those that occur almost by default; and those which though they may be considered beforehand, are not planned in detail but rely upon the teachers' professional skills for their implementation. Those which occur by default relate largely to differentiation by pupil outcome and interactions with pupils. Outcome was one of the most often mentioned means of differentiation being referred to by ten out of the thirteen respondents. There seems little planning for outcome. It occurs.

> 'Teachers by and large are happier and more comfortable giving all the kids in a group the same piece of work and then differentiating by outcome' (15WH)

> 'J How do you differentiate?
> T Basically by outcome'. (2HK)

> 'most of the differentiation I do... I think is going to be by outcome. (7SH).

No respondent indicated that he or she planned different outcomes for pupils other than those derived from the 'three worksheets'

> 'JV So, differentiation, I - would I be correct in saying there is no differentiation in your general planning procedure?
> T I would not necessarily say - oh, I have to make sure that it is in there, because I feel that it comes out, anyway.
> JV Because it is in the outcome?
> T Yes, and the fact that the content can allow the kids to differentiate by outcome' (13WH)

The implication from their statements is that because they believe children have different abilities they expect them to perform differently, either in terms of the length of the piece of

work produced, its quality, the responses they make to the teacher, or the extent to which they have progressed further than the other pupils. This latter point is not always encouraged as one respondent put it:

> 'if (they progress to) a new concept, the whole class needs to be taught that - so its pointless somebody being ahead, if you like, because when you come to teach it next week he'll have done it - ... so you've got to hold them back.' (9SH)

An indication that, for this teacher, only so much diversity can be tolerated.

Assessment, and in particular formal assessment, is seen as differentiating by outcome;

> 'we put most of our children in for one (GCSE) paper... their response and ultimately the grade they receive (is differentiation) (7SH)

> 'tests are examples of differentiation by outcome' (3KH)

Two responses to the question, 'how do you differentiate?', brought forth answers which, taken at their face value, showed a total lack of planning;

> 'its like..er.. coming to school... you just do it.' (11 SH)

> 'it happens.' (17WH)

These respondents subsequently went on to describe actions which were both planned and unplanned, however, it is worthy of note that their first reaction to the question was that differentiation appeared just to happen.

Teachers mentioned actions which took place while interacting with pupils as one of the ways in which they differentiated. While their planning may have allowed for this as a general teaching strategy, the detail of putting the strategy into action appears to be more haphazard

(unplanned). For example, respondents mentioned that they would ask questions differently of different pupils, attempting to match the question to the child, or for small group of children. This level of detail did not appear to be an aspect of planning for the lesson other than acknowledging that he or she would be asking questions or would be setting up a discussion. The following statements are typical of these responses:

> 'the level of question that you use to individual children might well be different. For instance, if you've got a brighter child you will ask a question which requires some insight, whereas to someone who might find the text itself difficult you might just ask a question to retrieve information....
> J What range of factors inform that decision?
> T ...from their responses... I would form some judgement of their ability (7SH)

> 'Open questions are the thing I tend to use'... (13WH)

> 'T Question and answer?
> J In the course of a lesson?
> T Yes, even as a group discussion with the different complexity of questions for different kids' (14WH)

> 'the first key questions will be questions which... everyone will have covered so there is a possibility that everyone could answer the question... I then ask more difficult questions which perhaps half the class can answer'. (9SH)

Respondent 13WH amongst others went on to indicate that individual support for pupils who were of lower ability was something which happened by default:

> 'Well, then to be honest, they are the ones that I would probably end up giving a fair amount of help and guidance to'

Factors Affecting Differentiation

Responses affecting differentiation have been categorised as those which centre upon the classroom and those which stem from a wider professional understanding of the teacher's role. Amongst the factors seen as relating directly to the classroom are: the pupils, the curriculum, resources and the physical environment. Those within the professionalism of teachers are: training, confidence, workload pressure and views of what actually constitutes teaching. An issue running through many of these factors is time. Nearly every respondent mentioned this as a feature and, for many, it was the first issue, they brought to the author's attention. It was used as a blanket term which covered a number of the factors in the two categories and occurred so frequently that it forms the final part of the analysis of the third question.

Pupils

Teachers feel that the amount of effort required to control pupils' behaviour limits the extent to which they can differentiate. This was seen by one respondent (2KH) as relating to pupils' maturity which she felt enabled her to provide a greater degree of differentiation with older pupils. Others indicate that it is the teachers' need for control of pupils which limits the range of teaching styles and thus the differentiation which they can employ:

> 'being very tight in my control of what was going on, being very formal,.... you tend to go for the knowledge approach, and by giving out bits of paper for pupils to do things and I'm talking about everyone having the same now - you seem in control' (16WH)

Classroom management...I guess we all feel more comfortable standing at the front doing our didactic bit...That's fairly easy and makes the teacher feel he or she is in control. (15WH)

'Behaviour - quite a key thing, erm, we have low ability classes - are they hard work! They find it difficult to sit and listen, to sit still, they find it difficult to concentrate, and so on and so forth. They lack listening skills - self-discipline skills - they are not as motivated - all these factors come into play. You have to be able to say - O.K., hang about - I want to do this, I want to do that - and that will be the ideal lesson, but I'm assuming they are going to sit and listen - you know - be well behaved and then work sufficiently hard to finish that bit. Reality is that it's a hot afternoon, there's been a fight in the playground, you're a bit hot and bothered, you're a bit hyped up - you've got to take all these factors into account, so you end up saying - this class, they are a bit of a pain sometimes, I will be tired so I'll give them something easy' -. (9SH)

A respondent expressed a concern with individual differentiation, referring to 'differentiation junkies': pupils who would not proceed with work until they had had an individual explanation. This respondent was indicating that a limiting factor could be pupils in a group who had too much experience of individualised work.

> 'I am worried about some kids now in classes, who I feel are not exactly differentiation junkies, but they seem - there are some kids that you come across now who expect to receive that kind of individual attention before they will actually consider attempting something for themselves, so that there is, I feel, a slight danger sometimes that when presented with things and say - right, this is what we are doing, have a go at it, and there are some kids now who maybe will only feel comfortable about doing things if they have had individual differentiation, if they had things talked through with them, and so on'. (12WH)

Curriculum

Three aspects of curriculum seemed to concern teachers in their approach to differentiation. One was formal assessment. Changes to the examination system meant that pupils had to be taught in certain ways in order for them to cope with the examination questions being set:

> I'd have looked at role play, producing radio broadcasts to examine characters, but because we have an exam at the end... go back to the old GCSE... giving notes, learning notes, doing forty minute essays on the notes they have learnt. (7SH)

> I mean in the end with exam work, your teaching toward that exam, there are certain skills which they've got to understand, interpretation, analysis, evaluation.. (2KH)

Linked to this issue are two further considerations: that of the pupil's learning strategies being inappropriate for the learning required by the teacher, and the subject's construction of a body of knowledge.

> 'The thing that worries me is... children (need) to write critically and analytically. It would not be appropriate to allow (them) to write imaginatively on a particular task' (15WH)

When asked if it was easy or easier to differentiate within their subject area, teachers' responses were positive. They cited the nature of the subject itself and the way its body of knowledge was constructed. The subject was either perceived as 'structured' and thus lent itself to differentiation

> 'in science it's facts, you either know a fact or you don't, you 'either are able to use an equation or a formula or not.' (3KH)

> 'it has got to be easier to differentiate in mathematics because it has got so much structure'. (11SH).

> 'the subject itself is differentiated since at foundation level you don't need to do calculations you merely have to understand principles, here at special tier you actually need to be able to use pressure force area relationships and calculate' (3KH)

or that it was unstructured and easier for children to achieve a range of learning within it;

> 'Well it is a practical subject. I think that does help' (13WH)

> 'so we are doing work on poems... those who want to enjoy instantly.... those who can cope with more challenging, reflective moods in poetry will find these as well.. so they can select, by and large their own poetry.. pupils can choose where they are coming in...' (12WH)

One respondent, linking differentiation to outcomes saw his subject as presenting more difficulties than others:

> 'I am conscious of the fact that English is an area of the curriculum which is not wholly content-based and I suppose my perception would be that if you have got a subject which is more clearly defined in terms of content, then that might make some aspects of differentiation easier because the thing about English is that you can't always predict what the outcome is going to be, I think'. (14WH)

This perception may relate to the fact that teachers who have only taught their particular subject have no other experiences on which to base a comparison. It could also be seen as easier to differentiate because they are more familiar with the subject matter. According to one respondent (17 WH), who as a special needs teacher supported teachers in a number of

different subject areas, the deciding factor for good differentiation was the teacher themselves rather than the nature of the subject matter:

> 'It is not the subject per se, it is the teacher where differentiation either happens or doesn't happen' (14WH)

Resources

A lack of resources was perceived by some respondents as affecting their ability to differentiate; 'resources is the obvious answer' was a reason given for a lack of differentiation by 16WH.

In particular it was the time required to make resources which was perceived as a limiting factor.

> JV ' what do you perceive as factors which stop teachers doing this thing called differentiation?'
>
> 10WH - 'Resources is an obvious answer.... This morning we had one text book for the whole lesson...' I felt there needed to be more examples perhaps visual, another case study...' (16WH)

In this case the respondent used the lack of available, appropriate resources as a reason for unsatisfactory differentiation - this begs the question of efficient resource allocation at school and/or departmental level.

In another case,

> resources is a big factor, because a lot of the resources we produce are our own, and because of that we're limited by the enthusiasm of the teacher...(7SH)

Teacher produced resources appear to be governed by two factors: the time available to them; and their enthusiasm for the topic to be taught. This is further evidence to suggest an imbalance in resource allocation at school or departmental level.

Environment

Only one respondent (2KH) indicated that the physical space available to her for certain lessons limited the differentiation she was able to employ since it impinged on the teaching strategies she felt able to use.

Wider Professional Issues

Teachers mentioned a number of factors outside the immediacy of the classroom which they felt had an effect on the level of differentiation. These included: training issues, professional confidence and their view of teaching.

Training Issues

Given the second purpose of the interviews, that of preparation for a staff development day, it is unsurprising that respondents mentioned training as a factor in affecting their ability to differentiate. Some respondents felt that their initial training was in relation to differentiation. Several mentioned that they were trained to teach to the middle of the class; 'most teachers when trained were trained for the middle ability' (2KH). Another respondent indicated that differentiation was put forward as 'a very good thing to do... but nobody came

up with ways of doing it' (3KH). Experience of teaching appeared to be an important factor in differentiation as teachers experimented with different forms of teaching:

> What we should be encouraging people to do is to experiment, no matter how long they have been teaching (16WH)
>
> J ... It is very largely experience then which has enabled you to differentiate?
>
> T Yes. Yes and also.. I have obviously picked up skills and techniques by going on courses' (13WH)

This last respondent raised the purpose of staff development in widening teachers' skills. Several senior staff saw the lack of differentiation as a weakness in staff development. One respondent indicated that teachers 'concentrate on one aspect of teaching style' because that's where 'they feel safest. (16KH). The perception of another deputy headteacher was that there was a lack of guidance available to the school as to what differentiation was and how it could be implemented. (8SH). Respondent 11SH had recently been on a course which had addressed differentiation from the perspective of pupils' learning and indicated that it had been a revelation to him:

> 'And up until that (course) I would say that the vast majority of, the training and, inservice I've gone through has never addressed any of these issues'.

This respondent had indicated earlier that he had never considered pupils' learning styles as a contributor to their failure to learn from a particular piece of teaching that had he undertaken; 'kids who are not achieving... I'd have said oh well they can't do it!' (11 SH). Other

respondents comment on this lack of reflectivity on the part of the teacher as a contributor to the lack of differentiation:

> 'more time reviewing and assessing the success of the materials we use - that's something which really doesn't happen, but it should.' (7SH).

> 'Its a lot easier once you have a handle on the pupil's ability and potential. You can only get that through contact with the classes. (3KH)

Several respondents positively mentioned being able to observe other colleagues teaching as contributing to the experiences they could draw upon. One respondent pointed to a dearth of such experiences as contributing to a lack of differentiation:

> I don't think teachers have the opportunity actually to go round and see other teachers teach... They come out of college, they are shut in a classroom on their own for twenty five years and then... become set in their ways.. (17WH).

Another voiced the following opinion:

> I think the reason why people do things is often part... is as much part of the way they work and their experience (1KH)

indicating that teachers' personality and lack of commitment were a factor in differentiation.

Confidence

Two respondents felt that teacher confidence contributed to the lack of differentiation:

> 'It is really about ideas and building up the confidence to have a repertoire of things going on in the classroom'. (16WH)

> J So why do teachers end up teaching as you indicated down the middle line in a unitary fashion?
> T Because they feel most confident in doing this'. (15WH)

This last quotation indicates that when there is a lack of teachers' confidence they retract to a more didactic form of teaching where, perhaps, they feel that they are more in control of the pupils lesson outcomes.

Views of teaching

Some respondents appeared to have a view of teaching which focused upon the provision of knowledge with little interaction from the pupils;

> 'the business of teaching is about the imparting of knowledge skills and understanding and getting as many children to a given point on a given time'. (15WH)

implying that little differentiation is required, since pupils are required to amass these goals at the rate, and in the order in which they are presented by the teacher.

There is also an indication within the responses that there is only so much that teachers can do and that differentiation is low down on their scale of priorities:

> 'You can't spend all evening doing worksheets, you need a life outside teaching - you can only do so much - you are not going to be perfect and you set (yourself) realistic targets' (9SH)

> 'well given the choice then pupils attaining the highest potential, they would be at the top of the list, unfortunately you don'ts say this is the deadline - 18th July. This pupil must have achieved their best potential. You do have other deadlines like by 18th July you must have produced a set of year nine reports... (3KH)

This pressure of tasks seen as not relating to teaching is mentioned by other respondents as contributing to a lack of differentiation.

> Because of the pressure of the job and the every day urgencies we just get on with it all (11SH)
>
> I personally think it is probably the pressure of the work and the fact that they are having to stick to... the national curriculum. (13WH)

Time

A constant refrain in the responses when asked why differentiation was lacking or difficult to put into practice was time: 'Oh, crikey! Time (9SH). Respondents saw time as a limited resource which was under pressure. These pressures were largely perceived as being outside their direct control such as, marking, writing schemes of work, attending meetings or running extra curricula activities. The competing pressures on teachers' time resulted in 'trade offs' and juggling of priorities which affected their ability to differentiate.

> So, in crude terms, have you done a trade-off - a trade-off between stress before the lesson in terms of preparing more work against stress in the lesson, charging round trying to see every child?
>
> I wouldn't call it a trade-off. What I have done is I have tried to ensure the best possible use of my time and resources outside of the classroom in preparing the worksheets and then, if you like, again in the classroom, knowing I've got set amounts of time,' (7SH).
>
> 'I think a lot of teachers would wonder what's in it. What benefit will accrue to the kids, bearing in mind that you have to put that much more work into a differentiate lesson than a standard classroom lesson.' (15KH)

What is apparent is that for some respondents differentiation is an aspect of teaching which only takes place within the classroom. Assessment of work, report writing and meetings

were not seen as integral to achieving differentiation, but as putting pressure on the limited time available.

> If you look at the average time that most teachers are putting in - most teachers would have two meetings a week after school - and also from my own point of view, I take cricket three nights a week - now then to expect a meeting of perhaps a late finish up to seven/eight o'clock at night, to ask them to meet on a Friday, which would be the only night left to stay for an hour or two, and we'll look at resources and try and look at providing materials for *xyz* wouldn't - I know what I would say to that!
>
> 'If they are going to prepare differentiated lessons that is going to be more time consuming and you and I know how overworked teachers are already! (15KH)
>
> A much as anything time demands, having to prioritise erm - different tasks which need to be done - I don't think I am able to plan lessons in as much detail as is necessary to do differentiation adequately. (3KH)

'T Finding the time to do the worksheets, to think about the range of abilities within a class.

J Forgive me for sounding naive, but why is that a problem?

= T Because you've got books to mark, reports to write, right? You have to prioritise - reports are the most important thing - because that's legal - er, number two - marking books - they need feedback - number three would be sitting down thinking long and hard about a lesson - so lesson preparation is a third priority of teachers, I think - because if you think about it, once you've taught something, once you've got the stuff you used last year - it will do - it's not perfect, but it will do! (9SH).

J. meeting - are they used efficiently and effectively?

T. No. Quite often they are unwieldy - quite often if you are meeting as a department then and you are discussing a particular activity or a particular, erm, part of the agenda, it might well be that for four/five members of the department that doesn't affect them - they are there

> whilst you are discussing something which has no effect on them. We have Curriculum Meetings where we have fifteen/twenty HODs, whereas perhaps if you had just the team leaders, five/six might be far more effective. (7SH)

Several respondents indicated that there were time pressures within their classrooms, relating to the length of periods, the size of the class and the abilities of the pupils.

> 'there isn't enough time to talk to pupils there's a lot of emphasis on supporting the child in their practical work. erm - and there's a lot of keeping pupils on task and flexible learning... so it really is difficult to manage within the lesson. (1KH)

> 'You can't differentiate with every child and I would hope nobody would suggest that within the forty/fifty minutes you can. You know children who might - you would go round, look at the work they are doing - and it's got to be no more than a cursory glance, you know which children might struggle with it, you look to see what they are doing, briefly in a question and answer session you can tell fairly readily which children have picked up what you are look for and which haven't - you might then well go round looking at the kids who haven't responded in a question and answer session in quite the way you may want them to, or you might - or you might have children who are reluctant to talk in an open situation and check to make sure they have picked up (7SH).

This last quotations also highlights the pressure which teachers felt as there was insufficient time within a lesson to get to know the pupils, an aspect which some felt was very important and contributed to their lack of differentiation.

> 'We have just not got the time to get to know every individual well enough to know how to pitch a lesson or component parts of a lesson. You just do not have the time to get to know these individuals - even the names of them, if you're teaching ten/twelve classes a week - you are limited when it comes to time' (9SH)

3.3.3 OfSTED Inspection Reports: an analysis

The LEA chosen had fifty nine selective, grant maintained and comprehensive secondary schools. Twenty four secondary school OfSTED inspection reports were available on the internet at April 1997 (40%). All the schools covered key stages 3 and 4 with a sixth form though a small number (4) were for the eleven to sixteen age range only. The reports were downloaded so that the author could work from hard copy. It should be borne in mind that these reports were written over the period 1993-1996. During that time the guidance for inspection was revised in May 1994. As discussed earlier the term differentiation was not used in the revised guidelines. The revisions were, however, minor in terms of the overall inspection process, and inspectors continued to be required to inspect aspects of teaching which encompassed differentiation. All the reports considered were written before the more major revisions in the framework for inspection came into force in 1996. The purpose of this analysis is to ascertain how an 'official' group, such as Registered Inspectors, used the term differentiation during the period of this study's field research.

The inspection reports varied in length from thirty - one pages to over fifty in length. In three reports there was no use of the term nor could the author detect any phrases or terms which could be said to cover differentiation. In the remaining twenty one reports the term occurred seventy two times. The maximum in any one report was seven. Of the twenty four reports, eleven were written by five Registered Inspectors: four wrote two each and one wrote three. The remaining thirteen reports were written by different individual inspectors.

This sample was too small to adduce whether the frequency of use was related to the individual Registered Inspector who had written the report.

Members of the inspection teams provide judgements for the Registered Inspector writing the report. Though the framework for inspection changed during the period of these reports the headings for the reports remained stable. The final report has a number of different headings amongst which are: subject areas, special educational needs, resources and management, equal opportunities, the overall quality of the teaching and an indication of those areas to which the school needed to pay some attention. A break down (figure 5.0) of the occurrence of differentiation shows that the majority 48 of the 72 mentioned are related to subject areas.

An analysis (Fig 5.0) of the comments themselves shows that eighteen of the comments where differentiation occurs are positive in orientation; in fifty four instances the comments indicated that differentiation is lacking and the tone of the comment is, by implication, negative.

Figure 5.0

Distribution of comments

School	Positive comments	Negative Comments	Totals
1	1	3	4
2	0	1	1
3	0	1	1
4	0	2	2
5	3	1	4
6	1	3	4
7	0	3	3
8	2	1	3
9	1	2	3
10	1	4	5
11	0	6	6
12	no comments	no comments	
13	1	1	2
14	0	1	1
15	2	3	5
16	no comments	no comments	
17	no comments	no comments	
18	1	1	2
19	0	1	1
20	0	4	4
21	1	4	5
22	1	3	4
23	1	4	5
24	2	5	7
Totals	18 (25%)	54 (75%)	72

Examples of positive comments:

'Excellent work has been done on the revision of units of work to include differentiation'
School 6

'Pupils benefit from well prepared lessons with excellent and appropriately differentiated learning resources'.
School 24

'Where success is achieved, it is through lessons which has (sic) pace, challenge and differentiation... teaching was good or very good...differentiated according to pupils' abilities'.
School 9

'The department pursues a policy of mixed ability throughout the school and uses a variety of techniques to differentiate'.
School 8

Examples of negative comments:

'Lacks some degree of differentiation'
School 2

'In most classes there is scope for further differentiation of the work'
School 4

'However in many lessons differentiation arrangements are not made or are ineffective...The impact of weakness in differentiation is compounded by teacher expectations that are not always as high as the ability of the pupils would merit...there is insufficient differentiation and attention to individual needs to maximise learning for all'
School 7

'The work is not always well matched to the pupils' abilities...Insufficient use is made of appropriately differentiated tasks'
School 24

'In some subjects differentiation for individual needs is at an early stage of development and the range of teaching styles is limited'
School 23

'there was a lack of teaching approaches offering opportunities for differentiation'
School 22

'Tasks are inappropriate and undifferentiated so that little effective learning can take place'
School 19

'Faulty plans for differentiation of the curriculum are not consistently implemented'
School 11

A number of comments indicate that differentiation by outcome is an issue. Other comments relate to staff development and school policies; class size is also seen as an issue. Examples are:

By outcome

'Differentiation is mainly focused on outcome...Only in one lesson was there differentiation by task, all others being by outcome'
School 1

Staff Development

'After the whole school INSET day on differentiation, progress...across the school has been extremely variable and weak in places'
School 1

'differentiation is an area for development...Practice in differentiation is variable'
School 21

'Review the appropriateness and quality of differentiation in the work of the classroom SEN policy relating to SEN...under the heading of differentiation'.
School 3

Class size

'in some of the larger classes sufficient differentiation in the work is not always possible'.
School 5

'with some larger classes it is difficult to maintain sufficient differentiation in the work'.
School 22

'the work set is differentiated to some extent..such match is not always consistent..the teaching groups are large'
School 20

'to review the groupings of arrangements so as to enable greater differentiation and better progress'
School 13

Figure 5.1

Comments set against the four foci

n = 72

Psychological	0
Organisational	6
Curriculum	7
Pedagogy - generally	35
- as match	24

Figure 5.1 shows clearly that OfSTED inspectors used the term most frequently in connection with pedagogic issues. In twenty four instances the comment is specifically about a match (or lack of it) between the teaching provided and the learning needs of the pupils. Examples of the latter are:

'..the development of differentiated teaching and learning materials to take account of all levels of ability'
School 10

'Differentiation is generally successfully developed....enabling pupils of all abilities... to progress well'
School 15

'differentiating the work sufficiently for the full ability range'
School 20

4. Differentiation - Current Themes

This section provides a review and comments on a variety of common themes and issues with regard to differentiation. These relate largely to the problems surrounding differentiation and range from a perceived lack of it in teachers' practise, through to its association with meeting special educational needs. Some issues have been grouped around a particular perspective; others are more isolated. In order to provide an understanding of the nature of teaching and learning it is not always possible to neatly segregate the issues and the debate that surrounds them into homogeneous segments. Thus, there is some overlap between the strands of argument attracted to individual themes.

There are four common themes within the literature. Pervading each theme is a lack of differentiation in practice. The four themes are:

- The importance of differentiation within pedagogy.
- The inconsistency of its use as a descriptive term as an aspect of pedagogy.
- The perception that differentiation is a pedagogic technique only needed for those pupils with special educational needs.
- Policy and practice in relation to differentiation.

The section concludes by discussing issues associated with a lack of differentiation

4.1 Differentiation: its Importance

Writers often subsume the importance of differentiation when making particular points. They tend to approach the topic with a particular emphasis, implying, for example that differentiation is an important aspect of school improvement (Ainscow, 1993). Some sources (Stradling and Saunders, 1993; BELB, 1990; Visser, 1993a) explicitly state reasons why

teachers should address the topic. These authors have differentiation as a pedagogic focus, rather than seeing differentiation as an organisational or curricular issue.

How education deals with the diversity in pupils is important, particularly in relation to educational outcomes. This study focuses upon those outcomes associated with the pedagogic conceptualisation of differentiation. The focus, outlined earlier, concentrates upon aspects of learning and teaching. How pupils are organised into groups and the effects of differentiated curricula will also impinge upon pupils' achievements. Discussion of the effect of these two forms of differentiation is limited within the study. The implicit premise is: that however pupils are grouped and whatever the curriculum they are provided with, the challenge of matching teaching and learning remains and has a more important impact upon pupils' achievements.

The importance of differentiation as a contribution to an understanding of the teaching and learning process lies in three closely interlinked areas: that of the teacher, the pupil and their achievements. Differentiation has become more important to teachers as a result of the OfSTED inspection process, where it is a part of the quality of teaching assessment made of individual teachers (Visser 1993, Stradling and Saunders 1991). The influence on teachers of this process has raised their awareness of differentiation. The introduction of a National Curriculum has also impacted on teachers (Visser 1993b, Stradling and Saunders 1993, BELB 1990), particularly within secondary schools, where there is now a need to examine

how pupils previously excluded from subject areas are to be enabled to gain access to the whole curriculum.

Stradling and Saunders (1991) argue that differentiation as an issue should be included in the school development plan, particularly as it impinges upon the development of teaching. They also see it as an important aspect to take into consideration in teacher appraisal.

Differentiation is important from a pupil's viewpoint as it is an acknowledgement of their individuality. This moves the discussion of teaching and learning from the homogeneity of the production line: input, task, output, to that of interpersonal relationships. The recognition of pupils' diversity requires the teacher to ensure that each pupil is dealt with according to his or her educational needs. To do otherwise is to disregard notions of equity and equality of opportunity, as the individual's needs are unmet, unrecognised and their contribution to the diversity of human nature denied. To fail to differentiate, is to teach as though pupils are, or should be, automatons.

There is an emphasis upon the pupil rather than the teacher as the main factor in achieving differentiation in some literature. Whilst this emphasis results in teacher action, the action is promoted by understanding differentiation in terms of the differences in pupils' needs (DES 1985). OfSTED (1992) implies that differentiation is a match between pupils' learning needs and teachers being able to effectively induce learning. The induction of learning relies upon

understanding the pupils within a group, their range of diversity and a knowledge of learning styles.

Many factors contribute to pupils' achievements within the curriculum. Some relate to their socio-economic and social experiences. Whilst these and other within-school factors have their importance, there is little doubt that the most important factor which enables pupils to reach their potential is the interactions that take place within the classroom. Differentiation is a part of these interactions; in particular the interaction of teaching and learning styles. Their match is seen as improving pupils' achievements (Carbo and Hodges, 1988). Given the definition presented by Visser (1993a) it could be said that differentiation is this interaction.

For individual pupils it is important to achieve as high an academic attainment as possible, and to leave school feeling that they are successful learners (BELB 1990). The achievements of pupils from the school perspective is important because pupil attainment has become a measure in assessing a school's quality. The publication of league tables (based on end of key stage assessment results) has bearing upon how a school is perceived by its community and the wider educational world. Differentiation is the key to achievement, rather than attainment as expressed by league tables.

OfSTED (1992) indicated that differentiation was to be a part of the criteria used in assessing the quality of teaching seen in schools. Subsequent revisions of the Framework of Inspection (OfSTED 1995) do not use the term. The criteria, however, remain the same and inspectors

are required to make assessments on teachers in relation to teaching styles and pupils' learning.

Can differentiation be assessed? The OfSTED framework and the various procedures used by researchers (for example, Simpson et al 1989, Bennett 1991) indicate that it is possible. Others question the extent to which it is achievable (Deforges 1985). Differentiation has been described as an intangible pedagogic practice, something difficult to spot happening but only too easy to see where it is *not* happening (Bourne, Davitt and Wright 1995). There are, however, tangible aspects of differentiation which can be observed. These relate to factors such as the use of appropriate materials and the language of instruction, and outcomes achieved by pupils. These tend to equate with a view of differentiation which consists of input, tasks and outputs (Spillman 1991). The intangible qualities within differentiation relate to interpersonal qualities associated with teachers' attitudes, values and beliefs in relation to teaching pupils.

Entwhistle (1990), acknowledging that differentiation is concerned with a match between teaching and learning, indicated that it is essentially a process, something which teachers do as they teach. He felt it was therefore difficult to manage and measure. Lacy (1970) indicates that where he saw teachers coping with diversity, they did so as a 'natural' part of the teaching. This he indicates could be measured in a quantifiable manner. Lewis (1991), writing of primary teachers, concurs with this view. She indicates that differentiation takes place within the active nature of teaching as teachers adjust and change their teaching in a

seamless manner. McIntyre (1993) suggests that the more experienced the teacher the easier it is for them to differentiate. They have a great knowledge of the 'professional craft' of teaching, a greater understanding of what is implicit in teaching and learning and of what goes on in the classroom.

This view of differentiation, as a teacher's professional skill in achieving a seamless match between the teacher and taught, is one which Schon (1987) indicates is relevant in a wide variety of professions where there is a client/service relationship. The professional teacher, Schon (1987) suggests, is one who having been able to articulate and acknowledge the individuality of his or her pupils, will seek to use a variety of teaching styles to establish the most effective ways of enabling the individual to learn. He terms this 'reflection-in-action' and believes that if teachers are to meet individual pupil's needs they must be capable of this reflection-in-action as they teach. Reflection-in-action he argues is not a measurable quality.

The sharpening focus on pupil diversity brought about by the introduction of a National Curriculum, has also increased the awareness of pupils' experiences as learners. If pupils are to have successful learning experiences a match between teaching and their learning styles is required (Biggs 1993, Berkshire 1993, Dessant 1988, Alexander, Rose and Woodhead, 1992, BELB 1990). Where necessary this 'success' needs to be catered for by enabling pupils to develop and enhance their learning skills (Weston and Mangon 1988). As Alexander, Rose and Woodhead (1992) argue, knowledge of how pupils' learn is important in achieving differentiation. BELB (1990) also argued that an important aspect of differentiation was the

focus it provided for teachers to understand the 'whole' child in the context of his or her learning. As both Stradling and Saunders (1992) and BELB (1990) point out, differentiation in its pedagogic sense is important if pupils' achievements are to be raised.

The sharpening focus on pupil diversity mentioned above has also led to a greater awareness of the range of that diversity (Falconer-Hall 1991, NCC 1989a, NCC 1993c, HMI 1990a, King 1990, NARE 1990). This awareness has been particularly emphasised in relation to those pupils who are more able, as well as those who have special educational needs. If these pupils' needs are to be met, particularly in mainstream schools, pedagogic differentiation must to be addressed (Swann 1988, Visser 1993, Ainscow 1991, Flemming et al 1990).

Assessment of the level of differentiation observed in classrooms has therefore, to be understood in terms of crude, quantifiable judgements relating to input, tasks and outputs, and to the qualitative judgements made by the observer on the content of pupils' learning in a lesson and overtime.

4.4.2 Differentiation: Consistency in the Concept

The discussion of differentiation so far in the study has outlined how the term has developed and the range of understandings that are apparent in the literature. Differences in these understandings have been discussed and some of the implications of these differences profiled. The inconsistency of its use in the literature has been noted by some authors (Collins 1991, Dyson 1993, Visser 1993a), who have voiced concerns particularly on behalf

of teachers faced with having to address the issue of differentiation in their schools and their own teaching. Introducing a vocabulary does not shift ideology or practice. These are often subsumed, and none more so than when differentiation was introduced into teachers' vocabulary. For a term to be successfully used in the vocabulary there needs to be a consensus as to its meaning and to the values, beliefs and attitudes which underpin it. The need for a greater consistency in the conceptualisation and use of differentiation as a term within professional educational use is governed by three important developments: a centralised curriculum; a regular cycle of inspection of schools; and professional awareness. The first development was the establishment of differentiation as an important principle within curriculum reform (Joseph 1984). The NCC went on to include it as one of six fundamental features of the National Curriculum (NCC 1989a): broad, balanced, relevant, differentiated, progression and continuity. As has been shown, the term is in frequent use within their literature and beside the confusions highlighted earlier, the NCC uses the term differentiated curriculum (see for example NCC 1992c) and curriculum differentiation (see NCC 1989c) as though they are synonymous.

The Schools' Curriculum and Assessment Authority (SCAA) which replaced the NCC, has also used these six features, and sees differentiation as an important part of the current curriculum reforms (Dearing 1994). For these reforms to be fully implemented teachers need to be given clear guidance on what the six fundamental features consist of. The first two, broad and balanced have been covered by the Education Reform Act 1988 and subsequent guidance issued by the DES and DFE (see for example DES 1989b, DfE 1992). Progression

and continuity have *de facto* been put in place via the publication of the National Curriculum. This leaves differentiation and relevance. Neither of which have been clearly and consistently elucidated, though relevance is presumed to be there in the content of the National Curriculum.

The second development is that of the regular cycle of inspection of schools. OfSTED has included differentiation as one measure in its assessment of the quality of teaching (OfSTED 1995). In its description of the quality of teaching it expects work to be 'suitably differentiated' implying that differentiation is about the delivery of the curriculum to pupils in groups or classes. Given the importance of the inspection process there is a need for teachers to understand more precisely what differentiation is, otherwise how can they begin to assess and improve their professional abilities and improve them? As Collins (1991) indicates, those advising and inspecting need to promote an understanding and explanation of the term.

The third line of development is a professional one. Since differentiation has become so central to the curriculum and the inspection of schools and teachers, the education service itself needs to be able use the term without having to check each time what is being meant.

4.4.3 Special Educational Needs

Among a number of writers differentiation is linked only to those pupils with special educational needs. For example, Wellington (1994) sees the issue of differentiation solely in

terms of meeting the needs of pupils with special educational needs. Fletcher (1993) argues that the practice of differentiation within a school should be led by the special educational needs co-ordinator; a view supported by Clarke (1991) and Moss (1996). Moore and Morrison (1988) felt that the lack of differentiation was nowhere more apparent than when teachers are dealing with pupils with special educational needs. Working with low attaining pupils can give special educators insights into how and why pupils fail. For this reason Falconer-Hall (1991) and Falconer-Hall and Coates (1993) feel that SENCOs are the main source of expertise on differentiation. The juxtaposition of special educational needs and differentiation would be unfortunate if the two become viewed as synonymous. The Code of Practice (DfEE 1994) advises that in the early stages of meeting a pupil's special educational needs, a more differentiated approach should be used. This could well reinforce in teachers' minds the notion that differentiation is something associated only with pupils with special educational needs. A view with which this author disagrees.

4.4.4 Differentiation: Policy to Practice

Differentiation is seen as important in this context in two main areas; equal opportunities and school development plans. Within the latter a number of writers discuss the need for whole school policies in regard to differentiation. Given an entitlement to a broad and balanced curriculum under the Education Reform Act 1993, schools are seen as having a legal obligation to ensure that all pupils receive their 'entitlement' (Bignall 1991). Differentiation is seen as an important component in striving to gain equality of access, (Brown 1991,

Flemming et al 1990, NCC 1989a, NCC 1990b, McParland and Crain 1987, Peter 1992, Cornwall 1992, Dessant 1988).

Stradling and Saunders (1993) refer to the importance of differentiation being built into a school's development plan, since at its heart, differentiation addresses issues relating to how well a school values individual pupils and how it wishes to develop their achievements. BELB (1990), Devon (1992), King (1990), Stradling (1993) are amongst those who make a similar point in relation to whole school policies on teaching and learning. They argue for the importance of differentiation being seen as part of a school's documentation on how pupils will be able to achieve their entitlement and how their individuality will be valued within the school.

The school development plan (SDP) is a means whereby the aims of the school become translated into classroom practice via the schemes of work and subject development plans. These should be an integral part of the SDP. Hence the school's understanding of the relationship between teaching and learning should be made explicit within the SDP if teachers are to have differentiation as a priority in their professional development within the overall SDP.

In order for teachers to cope with the range of ability within the groups they teach, differentiation of teaching styles is required. An aspect of the quality of teaching is seen as how well teachers manage this aspect of teaching (OfSTED 1992). Lewis (1991), Ainscow

(1991), Peter (1992), all see differentiation as being associated with effective teaching. It is viewed as a means whereby teachers induce learning and provide motivation (OfSTED 1992, Arnold and Heaton 1993).

The ability of teachers to enhance their teaching skills in relation to all pupils is a further factor of importance raised by writers. They indicate that by addressing the issue of differentiation teachers will be able to do this (Alexander, Rose and Woodhead 1992, Bennett et al 1984, Beveridge 1993, HMI 1989, HMI 1991).

Stradling and Saunders (1992) indicated that differentiation should form an important strand in teachers' appraisal. This is an important issue given the place of differentiation in the overall assessments made by OfSTED in their judgements of quality teaching. In BELB (1990) the issue of differentiation as part of the quality of teaching is not explicitly raised, possibly because Northern Ireland has a different approach to the inspection of schools to England and Wales.

A constant strand of thinking which surrounds the debate on differentiation is that of 'standards' and 'raising achievement'. A number of writers (Larcombe 1987, BELB 1990, Visser 1993a, Fish 1985, Lewis 1992, Moffat 1992) argue that teachers, by examining how they achieve a match between learning and teaching will not only raise pupil's achievement but also their own sense of satisfaction in their professional development. Other sources (Bennett et al 1984, Sebba and Ferguson 1991, Simpson 1989, HMI 1993a) indicate that

because differentiation is not being addressed in this way pupils are under-achieving in schools.

4.4.5 A Lack of Differentiation

Differentiation as a match between teaching and learning appears, in the literature, to be lacking in the practice of teachers. The literature is wide ranging and based on a mixture of research and experience. Amongst the former are Simpson (1989), Simpson and Ure (1993) and Bennett et al (1984) as discussed earlier. Stradling and Saunders (1991) have based their comments on work which focused solely upon low attainers in years ten and eleven. Thus, their comments relate to a lack of differentiation in relation to that particular group of pupils. A lack of pedagogic differentiation is not a recent phenomenon as is evidenced by the Board of Education's (1944) publication, and also by the comments of Corno and Snow (1986), mentioned earlier.

There is a preponderance of writers who appear to base their judgements more upon their experiences than any empirical data. Amongst these are BELB (1991), Berkshire (1993), Brown (1991), Duffy (1990), and Montgomery (1990). Publications from DES (1986), OfSTED (1992) and HMI (1985, 1989, 1993a) indicate that differentiation is lacking and base this upon analysis of unpublished surveys undertaken on a variety of school populations. Two schools conducted their own investigation into differentiation following staff development programmes and found that it was not as much in practice as they had anticipated (Laycock 1994, Cruise 1991).

One trend that is discernible is that differentiation is more in evidence within the primary than in the secondary sector (Bennett 1991, Montgomery 1990, Lewis 1992, Simpson 1989). Indeed, Alexander et al (1992) go further indicating that within the primary sector teachers at key stage one are better at differentiation than at key stage two.

The reasons for this lack in differentiation are according to literature quite wide ranging, but can be placed broadly fall into three areas: those that are perceived as being within teaching; those which are associated with pupils characteristics; and those as being outside of the classroom.

Within Teaching

The following factors are ascribed as contributing to a lack of differentiation because of teacher characteristics. They are: subject knowledge; lesson planning; resources; time; and a lack of understanding of pupil diversity.

Subject Knowledge

Edwards (1993) and Postlewaite (1993), indicate that teachers need to have a sound knowledge of the subject matter. It is also a criteria to be found in well differentiated lessons according to OfSTED (1993) and Brown and McIntyre (1993). Edwards (1993) argues that the major reason for the lack of differentiation at secondary level is a lack of subject knowledge on the part of teachers. He draws upon the work of Bennett and Carre (1993) who found that in upper primary level lessons, where the teacher lacked subject knowledge,

the amount of differentiation could diminish. The lack of subject knowledge meant that teachers over-relied on a scheme of work which pupils had to follow almost page by page The learning was being mediated via a text rather than by the teacher. Simpson (1989) and Simpson and Ure (1993) comment on this suggesting that a lack of subject knowledge leads to the teacher being unconfident of how to proceed in delivering the content. This in turn affects the teaching style. There are indications in their research that this was a particular factor in the lack of differentiation they found in science and mathematics.

Lesson Planning

One of the main strands in considering pedagogic differentiation concerns the planning necessary before teaching and the importance of the teachers' approach to it. HMI (1989, 1993) indicate that poor preparation and a lack of setting objectives for pupils to reach contributes to the lack of differentiation seen in lessons. A view BELB (1991) concur with.

Newton (1994) indicates that planning is an important part of the teaching process. She argues that if differentiation is left to the delivery stage of teaching it will be an entirely reactive process. Differentiation then becomes merely the teacher's reaction to the failing pupil. Planning according to HMI (1985, 1990a) is all too often a haphazard process where much that is to be taught, and particularly how it is to be taught, is left to chance. A view reinforced by NCC (1989, 1993f), which makes a plea for clear, thorough planning of teaching. It is in the planning process that the teacher can build in strategies for meeting the diversity of pupils' learning styles.

Bell and Best (1986) and Brown and McIntyre (1993) indicate that it is not the lack of preparation but rather the order in which the sub-parts of planning are undertaken. Both sets of authors argue that teachers concentrate in their planning upon the resources available to them rather than upon pupils' learning needs and styles. Montgomery (1990) describes the results of this approach as the 'blunderbuss' technique of teaching. Teachers faced with teaching a particular topic armed themselves with a wide range of materials which are given to the class. This in effect sprays pupils with a wide range of resources on a given topic in the hope that 'some of it will connect with some pupils some of the time'. No particular connection is planned for by the teacher to individual pupil's learning needs. This form of teaching is seen as widespread amongst secondary teachers particularly in years, seven, eight and nine (Simpson and Ure 1993).

Laycock (1994) indicates that it is in their planning that teachers fail to acknowledge the range of differences in pupils. Mercer and Mercer (1985) indicate that teachers fail to do this because they believe that they cannot cope with a wide range of diversity in their classes. Dransfield (1994) also believes that the teachers' planning process is the point at which differentiation needs to be built into the learning experience. For him, it is the point at which the teacher needs to ensure that he or she will not be taking individual pupils beyond, what Vygotsky called, their 'zone of proximal development'. Bell and Kerry (1982) indicate that without good preparation individual pupils' differences would not be met. They agreed by implication with the comments by HMI (1985, 1992b) that planning and preparation particularly at secondary level has generally been haphazard, leading to too much

inappropriate whole class teaching. Throughout these sources there is an emphasis that teaching styles need to be differentiated (Moore 1992); the pupils are already different. For these writers differentiation is a reflection of teachers' responses to these differences particularly in why and how they plan to meet them, both in terms of long and short-term planning (NCC 1993e).

Those views which imply that teachers' approach to planning are haphazard and in particular that teaching styles are left to chance are contradicted by others. Merrett and Weldall, (1993) investigated teachers' views of their training and found that they felt that their training with regard to planning was good. The issue here may be one of what constitutes 'planning'. The Merrett and Weldall (1993) study concentrates upon context issues and behaviour management. Other authors have used the term planning more generically applying it to resource use, teaching styles, assessment and evaluation of previous lessons, and knowledge of pupils learning styles (Brown and McIntyre 1993, Montgomery 1990).

The process of planning to teach is covered by a number of authors (see for example, Brown and McIntyre 1993, Joyce, Calhoun, Hopkins 1997) but little appears to be available as to how secondary teachers actually go about the process. In particular, if the order in which they engage in aspects of the process affects the way in which they then proceed to teach, this could have implications for the amount of differentiation which takes place. For example, if decisions regarding which resources teachers will use are taken before consideration of the

pupils' learning needs, would this lead to lessons which are resource driven, rather than pupils' needs-led?

Resource Use

Some authors view pedagogic differentiation as a teachers' ability to use resources. Bell and Best (1986) indicate that for teachers to move from a narrow range of teaching styles they need access to a wide range of resources. This view contradicts Montgomery's (1990) teachers' 'blunderbuss' technique of resource use. The Audit Commission (1992) also indicated that teachers need access to appropriate resources to meet pupils' individual needs. These views raise the questions do teachers know how to choose 'appropriate' resources?

Both Crouch (1992) and King (1990) indicate that teachers view the resources issue in terms of 'worksheets'. In particular they suggest that the 'three worksheet technique' is viewed as sufficient differentiation for secondary classes. For King (1990), Crouch (1992), Visser (1993a), McManus and McManus (1992), and others, this approach to differentiation is seen as very limited in what constitutes the uses of a range of teaching styles. Merely to vary the number of worksheets will have little effect upon the teaching styles adopted by the teachers concerned. The worksheets whilst varying in complexity maintain a unitary style of teaching. Worksheets often limit children's learning (McManus and McManus 1992) in that they require a particular learning style for successful completion, and are often limited in the opportunities they provide or encouragement they give to pupils to pursue the topic. (Simpson 1989, HMI 1993b).

A further resource noted in the literature as being able to provide teachers with the ability to differentiate is the use of classroom assistants. These are seen (ASE 1991) as important to the provision of differentiated lessons and the achievement of a match between learning and teaching, particularly in relation to those pupils who have a special educational need. ASE (1991) indicate that the effective use of classroom assistants in achieving a well differentiated approach lies in the extent to which they are fully briefed by the class teacher. A view supported by OfSTED (1996). Merely assigning a child or group of children to the extra resource of a classroom assistant will not achieve a match between learning and teaching. It is important to note this in view of the Government's intention to expand the use and role of Learning Support Assistants (DfEE 1997b).

Differentiation and Time

Warren (1993) sees differentiation taking up time for young teachers as they plan their teaching, engage with pupils and reflect and evaluate lessons, a view to which Dickinson and Wright (1993) concur. They argue for published resources to be more differentiated to save teachers' time in preparation. Warren (1993) believes that with experience and with growing confidence as teachers perform the act of teaching, time becomes less of an issue.

Weston (1996) indicates that the 'most serious' reason for a lack of differentiation was a lack of time. Particularly time in relation to dealing with individual learners in and out of the classroom, where building relationships with pupils can give teachers useful insights into the extent to which their teaching matches pupils learning.

For Brandes and Ginnis (1990) the lack of time for teachers to engage in discussions regarding the process of teaching is a key factor for the lack of differentiation. They see the tight scheduling of the timetable, with staff meetings and development days devoted to structural aspects of schooling, as leaving little or no time for teachers to examine aspects of differentiation.

Waterhouse (1982) argues that the time spent briefing and coaching pupils on the materials they are to use is not only enabling pupils to engage more effectively with the materials, but also saving time. He notes the time taken up by pupils enquiring on the nature of the materials and their use during lessons. By giving pupils the learning strategies required to use the materials he says teachers can 'create time' to attend to other issues within the lesson.

Pupil Diversity

The Board of Education (1944) in their thirteenth imprint continued to plea for teachers to understand pupils individual differences and their potential effects on the learning style of the pupil. The Education Act 1944 indicated that pupils should be educated according to their age, ability and aptitude, a sentiment that is also incorporated in the Education Reform Act 1988. These exhortations have been variously interpreted over the past fifty years, as has been shown earlier, in terms of the organisation of educational provision and the curriculum. They are currently seen as underpinning the need for differentiation. Many sources stress the need for teachers to 'understand' pupils. Stradling and Saunders (1991) state that teachers agreed that pupils are different, but disagree over the relative importance of particular

differences and how to cope with them in the classroom. Authors writing about pupils' differences in relation to pedagogic differentiation concentrate upon differences in learning style and learning needs. Learning style describes the way in which a pupil goes about learning. Learning needs arise from these preferred ways, either because pupils need to be taught alternative strategies and styles or because, for a given pupil to learn effectively, a given teaching style is necessary. The more in-depth knowledge the teacher has of the pupil's, learning style, the greater his or her ability is to differentiate (Landy 1992, Housden 1993).

This approach to pupil diversity could lead to the individualisation of the teaching and learning experienced by pupils, where pupils are perceived as different and unique and in need of a totally individual approach. BELB (1990) indicates that this is a possible ideal, where differentiation is seen as a series of 'one to one encounters' in the classroom. A view also expressed by Moffat (1992) who views differentiation as meeting pupils' learning needs individually. Each child being dealt with on a separate basis. Larcombe (1987) Powell and Solity (1990) argue that this individualisation, beside being impossible to achieve, is not always effective in learning terms. (Issues discussed in depth earlier). Working with others in groups is a learning style which most pupils prefer and as NCC (1993d) point out, whole class teaching as well as group teaching and some individual work should be part of the bank of teaching styles that a teacher adopts.

Postlewaite (1993) argues that a concentration on the range of differences in pupils has two weaknesses. The first is the anecdotal nature of much of the evidence for these differences and their effect upon learning. The second is that the range of differences is too wide to be comfortably dealt with professionally. A view supported by Larcombe (1987) and Powell and Solity (1990). Postlewaite (1993) states that the only differences which can be considered in terms of their effect on a pupils' learning are: educational, psychological, physical, social and socio-economic. This extensive list does not appear to leave out any aspects of a child! Larcombe's (1987) concern is that in moving away from differentiation as being the individualisation of the educational experience for a pupil, the notion of individuality needs to be kept to the fore. He and Postlewaite (1993) wish to avoid teachers compounding what had been true in organisational differentiation, where classes of pupils were seen as homogeneous in terms of learning styles by teachers. Guerro (1990) noted that teachers having put pupils into groups, then treated those groups in a homogeneous manner. These authors, and others (McIntyre and Postlewaite 1989, Lewis 1991, Visser 1993), argue that differentiation is not achieved by the individualisation of work, though some pupils may occasionally require individual tuition.

Lewis (1991) suggests that it is understanding the individual's learning strategies, whilst teaching groups of children, which is a key to successful differentiation. Visser (1993a) also points to the need for teachers to group pupils in order to maximise the use of resources and time. He maintains that differentiation is not about the individualisation of a pupil's educational experience but rather about understanding the individual pupil in a group context.

This understanding would prevent the drift towards homogeneity which Larcombe (1987) was concerned about.

A further, reason for recognising an individual pupil's identity within the group is indicated by OfSTED's (1995) plea for flexible grouping by teachers within their classes. They point to the need for teachers to take account of the diversity within individual pupils by placing pupils in different groups, for different purposes, at different times.

Within Pupils

The aspects which authors indicate are a part of pupils' contribution to differentiation are: learning characteristics, ability, teacher expectations and behaviour.

Pupils' Learning Characteristics

A further explanation for the lack of differentiation could lie in the teacher's view of pupils learning characteristics. If the perception is one where pupils acquire knowledge merely by processing materials, then the teacher's concern is to place before the pupils as many materials as possible. This perception perhaps underpins the criticism made of teachers by HMCI (1996). Understanding and ascertaining pupils' learning characteristics is an area which is littered with theories. Some are overarching such as Piaget's theory of cognitive development, and range to particular narrow learning strategies, such as in precision teaching or DARTS.

In terms of differentiation authors seldom make reference to the over arching theories. An exception is Dransfield (1994) who bases his views on Vygotsky's notions of developmental learning. Most others make reference to learning styles and strategies in terms of study skills, ability, flexible learning, and independent learning. A general theme running through the literature is that teachers fail to pay sufficient attention to these issues when teaching.

Alexander et al (1992) argue that teachers need to be more aware of how pupils learn. HMI (1992) also argue that teachers need to show more awareness of the different ways in which pupils go about the process of learning. Particularly, they imply, because teachers tend to blame the pupils when they fail to learn or for not learning from the way in which they are taught. If, as Arnold and Heaton (1993) argue, the purpose of differentiation is to sustain motivation, confidence and progression in pupils, the need then to provide learning experiences which are successful for the pupil is paramount. The issues that arise in relation to learning characteristics are:

1. are these ascertainable?
2. are they static entities?
3. are they appropriate?
4. can/should they be taught?

The extent to which learning characteristics are ascertainable depends upon the definition used as to what they are. Where writers (Rayner and Riding 1997) believe they are describable they become accessible but largely by assessment procedures which are very

specific, and not applicable to the more general 'hurly burly' of classroom learning. Their stability over time is also questioned (Rayner and Riding 1997).

Writers in their work about differentiation seldom make reference to understandings of learning characteristics. They use the term learning style in a generic way and one which relates to teachers' current perceptions. For example, Cooper and McIntyre (1996) refer to a teacher's need to find out pupils' 'preferred way of doing things'. Stradling and Saunders (1991) make reference to pupils having different learning styles without being explicit as to what these could be. Weston and Morgan (1988) in commenting on a lack of differentiation in classes point to pupils' 'ineffective learning strategies'. Cambridge (1989) argues that for differentiation to take place, pupils need a range of what they refer to as study skills. Bell and Best (1986) present a similar argument and go on to list the possible range of skills a pupil could require. These appear to be based upon the way teachers teach. There is a potential circularity in these discussions, in that the learning characteristics that it is said pupils have, are those acquired by the way pupils are taught.

Pupils Learning Styles

As outlined in the Preface the term learning styles is a broad concept in the literature, used to incorporate notions and research findings on intelligence and personality. Riding and Rayner (1998), Riding (1997) and Rayner and Riding (1997) provide a comprehensive overview of the various theories and research findings which cover learning styles.

Griffey and Kellcher (1996) identify four traditions within the field of psychology which seek to provide an understanding of how people learn, namely: cognitive, behavioural, social and personality, and humanistic. They see these four traditions as providing models within which knowledge and understanding of learning styles have been developed.

Rayner and Riding (1997) argue that these traditions are too narrowly conceived and usually antagonistic to each other. They also perceive 'learning style' to be a complex concept which is best understood as Curry (1983) points out as a multi layered concept. They perceive learning style as a separate concept to that of personality and intelligence. Riding (1997) provides evidence to substantiate this. He also indicates that learning style is not affected by variables such as age, gender or race.

Rayner and Riding (1997) present evidence to show that the concept of learning style is:

> 'always associated with individuality and is
> invariably used to describe an individual quality,
> form activity or behaviour sustained over time'.
> p.5.

They argue that rather than the four traditions outlined by Griffey and Kellcher (1996) 'style based' work in psychology is better understood as coming from three different approaches to understanding learning: cognition-centred; personality - centred and learning centred. The learning centred approach is one which Rayner and Riding (1997) and Riding and Rayner (1998) claim has most to offer education. Their extensive review of the literature places the various themes and research papers into one of several categories viz:

- Wholistic - Analytic Cognitive Domain

- Verbal - Imagery Cognitive Domain
- Wholistic - Analytic - Verbal - Imagery Cognitive Domain
- Process-Based Models of Learning Style
- Preference - Based Models of Learning Style
- Cognitive Skills Based Models of Learning Style

This categorisation is linked to Curry's (1983) exposition of learning style as an 'Onion'. He argues that there is an inner core to learning style which is personality centred; that the next layer is related to information processing and that the final out layer is an individual's instructional preference. This approach to understanding the concept of learning style is one which Riding (1997) argues could provide a comprehensive guide to educators in applying some of the research findings to their teaching.

The importance of understanding the varying style of individuals is argued by a number of writers (Sadler-Smith 1997, Riding and Rayner 1998, and Kershner and Pointon 1996 for example). Riding (1997) maintains this is of particular importance when the task set by teachers for pupils to achieve is more complex. Easy tasks, he argues, require little match with an individual's learning style for successful achievement. The more complex the task the more congruent the teaching style to the learning style needs to be for an individual to achieve success. Griffey and Kellecher (1996) argue in a similar vein pointing to a need on the part of teachers to understanding student/pupil differences not just in terms of personality and intelligence but also in terms of their learning style. Unfortunately though there are

several tools available to ascertain a pupil's learning style (see Sadler-Smith 1997 and Rayner and Riding 1997 for details) there is little guidance or research evidence on how this information can best be utilised by teachers in their teaching Rayner and Riding (1997). Further as they imply many of these tools are complex, contain 'surface' information, and are not geared to the 'real' world of education in that they are not manageable or easily accessed by teachers.

Elsewhere in this study evidence is given that differentiation is lacking in teaching. The extent to which teachers are unfamiliar with the concept of learning style, lack the means of ascertaining via an assessment tool, do not have clear guidance on how to apply the information once gained, may provide for explanation for this lack.

Circularity

Should the teaching style be varied to meet learning or styles which are perceived as being innate, or at the least learnt before formal schooling? Or should pupils adopt learning characteristics which are appropriate to the manner in which teachers teach. Writers seldom discuss this as an issue. More usually they adopt positions which are a mixture of these two potentially dichotomous views of teaching and learning. Simpson (1989), for example, argues for teachers to assess the learning needs of pupils and to adapt their teaching accordingly. Wiltshire (1992), on the other hand, argues that pupils should be taught to reflect and evaluate their learning styles, (a process described as meta-cognition), in order that they are better able to achieve a match with teachers' teaching styles. The Audit Commission (1992) suggests that for pupils to be 'independent learners' and for greater

differentiation to be enabled, there is a need for pupils to acquire skills in how to learn. Atfield (undated) states that pupils need to have flexible learning skills if a match in differentiation is to be achieved. Dickinson and Wright (1993) suggest that teachers should issue study guides for pupils in order that they acquire appropriate learning styles and strategies. With respect to the four questions posed above concerning learning styles, there is a paucity of literature which address them in relation to differentiation.

Ability

The notion of ability is one referred to by some writers on differentiation. The Scottish Education Department (1977) explicitly states that a pupil's ability should to, be taken into account in order for differentiation to occur. Ability should be subsumed as descriptor in describing the learning needs of pupils. Moffat (1992), Simpson (1993), HMI (1992a) and HMI (1993a), are amongst writers indicating that the 'learning needs' of the able children are frequently overlooked by teachers when they differentiate. HMI (1992) also indicate that the learning needs of pupils who have learning difficulties are also overlooked. The argument here would appear to run along the same lines as those which were elucidated in relation to the 'homogeneity' of approach to groups of pupils. Teachers appear, from this evidence, to teach to some notion of the average ability in the group.

Teacher Expectations

In examining the pupils' aspect in pedagogic differentiation some dangers are highlighted. The first of these is one of 'expectation'. Falconer-Hall (1991) warns that in understanding a

particular pupil, even within the range of factors outlined later by writers such as Postlewaite (1993), teachers should not restrict their expectation of what a particular pupil may be able to achieve. The danger, she indicates, is that because the teachers' understanding of what a pupil can do is based upon what the pupil completes as a given outcome, expectation and tasks are set at too low a level. Differentiation, therefore, becomes the setting of tasks which are too simply achieved. As Simpson (1989) points out pupils will, for the most part, compliantly, complete tasks, and not necessarily make progress in their learning. Differentiation needs to ensure that pupils achieve progression in their learning.

Pupil Behaviour

As indicated earlier in this review, a number of authors link issues in pupil behaviour with differentiation. A key contribution to this debate was the Elton Report (1989) which clearly linked the issue of differentiation within the quality of teaching to the levels of misbehaviour within teachers' experience.

It could, therefore, be argued that until pupils' behaviour is under control and pupils' emotional and behavioural needs are met, no differentiation can take place (Laslett 1977). This might account for some of the lack of differentiation reported by authors. As Elton (1989) points out teachers perceive that keeping control is a high priority in having a 'good lesson'.

Cole, Visser and Upton (1998) and Elton (1989), amongst others, argue that whilst control and meeting emotional and behavioural needs is fundamental to quality provision, they are achieved in part through differentiated teaching, rather than before it.

Outside the Classroom

Issues which may contribute to a lack of differentiation outside the immediacy of classroom interactions but impinge upon it are: class size; teachers' beliefs and attitudes; and teachers flexibility.

Class Size

The pupil-teacher ratio is a factor that is mentioned by teachers during staff-development days to the author when discussing the reasons for a lack of differentiation. The evidence within the literature seems contrary to this, and the detailed interviews (reported later in this study) make little mention of it. Weston and Mangon (1988) point out that smaller classes in their survey did not guarantee greater differentiation, though Weston, (1996) draws attention to teachers' concerns over class size. BELB (1990) indicates that class size may be an issue in relation to teacher's workload, particularly in building relationships with individuals in a class. OfSTED (1995) and Rose (1996) reporting on a survey of class size in relation to pupil achievement indicate that effective teaching has a more significant influence on achievement than class size. They provide evidence to show that there is no correlation between effective teachers and the size of their classes, except in relation to early years work and teaching pupils with low attainments.

Teachers' Beliefs and Attitudes

A number of authors see the teachers' beliefs, values and attitudes regarding pupils as central to differentiation (Postlewaite 1993, Pollard and Tann 1993, Norwich 1994, King 1990, Visser 1993a). When teachers have no sense of the individuality of pupils and their diversity, the need to differentiate their teaching is lessened (Penfold 1993). In effect, the view of teaching becomes one where information is presented in a particular form for 'all' children, which all have to learn. It is an ' I teach-you learn' model where little interaction takes place between the teacher and the taught, as each are seen as having separate roles.

The need for these attitudes, values and beliefs to be explicitly stated in a collective form, for example in a school policy, is for King (1990) a factor which could promote differentiation. The importance for differentiation lies in the position the school and individual teachers take over the equal valuing of each pupil. Without each pupil being valued on an individual basis she argues there can be little point in pursuing differentiation. Postlewaite (1993) similarly argues that it is teacher's views of, beliefs about, and attitudes towards individuals, which provides the impetus for differentiation. The extent to which teachers acknowledge the individuality of pupils will affect the differentiation a teacher engages in.

Teacher Flexibility in Teaching Styles

Powell et al (1996) indicate that, in order to differentiate, teachers must also have a professional attitude in the classroom which enables them to cope with constant change, as

well as deal with what they refer to as non-stable institutional changes. Teachers need a flexible approach to the teaching styles they adopt. Teaching is seen as a dynamic process where teachers need to be able to cope with, and react to, change. Powell et al (1996) go on to argue that teaching can be viewed as the creation of change in order to enhance diversity amongst pupils. Pollard and Tann (1993) argue similarly that it is the teachers' responsibility to use classroom responses from pupils to provide points at which they alter what they are doing in order to meet a change in needs or gain a new perception of pupils' learning style. Being wedded to a static teaching style will not promote differentiation.

The central role of the teacher in differentiation is perhaps too obvious to need stating. However, there is a need to emphasise that given an entitlement curriculum the role of the teacher has shifted more to ensuring access to a wider curriculum (NARE 1990) and away from issues of the content of what is taught: a differentiated curriculum. The issue is how to ensure full access in terms of breadth and depth of a curriculum. This leads to an examination of teaching styles.

Having a range of teaching styles as part of a teacher's resource bank is seen as a necessary prerequisite for differentiation (Kyriacou and Wilkins 1993, Warren 1993, Waterhouse 1990 Atfield - undated). Earlier, King (1990) indicated that to achieve the match needed to ensure that differentiation took place, teachers need to use a variety of teaching styles within any teaching period. Defining teaching styles as 'the different methods teachers can use to enable pupils to learn' Alexander et al (1992) indicate that being aware of the range of teaching

styles in use is an important aspect of good quality teaching. The implication in all these sources is that the range of teaching styles used by individual teachers is relatively narrow and that they remain static over the period of a teacher's professional career.

Staff Development in Differentiation

A large number of authors give advice on to how differentiation can be achieved. This materials is, at best, based upon teachers' comments and in-service days (Visser 1993, Landy 1992, Barthorpe 1992, Convery and Coyle 1993) and, at worst, is pure exhortation on the part of the authors (Robbins 1991, Luscombe 1993, Rotherham 1991b, Rowe and James 1995, James 1995, Tubbs 1996). Few of these sources give research evidence in support of their advice. Simpson (1989) is an exception in that her advice and that of her colleagues (Simpson et al 1989) is based upon research in primary schools. Similarly, advice contained within HMI documents (HMI 1990, 1993, DES 1986) is based upon their surveys of practice and thus carries greater credence than many other advisors. Authors given to exhortation tend to produce materials in prescriptive form which outlines how differentiation can be achieved. Several LEA documents do this (see for example Cambridge 1992, Cornwall 1992, Devon 1992, Enfield 1992). There is little that is interactive in the materials, or that engages the reader in any examination of the issues. The reader is given 'exemplars' to follow or copy. Pollard and Tann (1993) whilst drawing upon a wide base of literature in their promotion of differentiation, nonetheless give little evidence on how teachers actually differentiate. Robbins (1991) and Luscombe (1993) are examples of authors who advocate the need for differentiation and give examples of how it is to be achieved. However, neither

gives any evidence upon which this advice is based. Some of the literature produced by the NCC is also of this nature (see for example NCC 1993a).

In response to demands from schools and teachers a number of sources have produced materials in relation to differentiation of a more interactive nature for use with staff development programmes. These range from texts giving information and some 'workshop' activities (Stradling and Saunders 1991) to substantive kits containing videos and texts (Wiltshire 1992). All concentrate upon teachers' planning and teaching of the National Curriculum.

Dickinson and Wright (1993) see differentiation as a planning process in the first instance and provide readers with a wide range of ideas for use within the secondary classroom. They provide a number of activities which derive from their work in schools. Later material (Bourne, Davitt and Wright 1995) continues this theme and concentrates upon the use of information technology to enhance a teacher's ability to achieve a match between teaching and learning.

Barthorpe and Visser (1991), Fletcher (1993), Rotherham (1991a, 1991b), Smithers and Goulders (undated), Tempest and Jones (1994), Thomas (1994), Visser (1993) all produce materials for use on in-service training days. Some of these staff development packs are subject specific (e.g. Thomas 1994 for modern language teaching), while others adopt a more general approach. A generic methodology indicates that whilst individual subject areas may

lend themselves to particular teaching styles or require particular learning styles, for the most part the practice of differentiation is not believed to be subject specific. The literature does not indicate that it is easier to 'differentiate' in one subject than another.

A number of these authors provide worksheets and suggest activities which seek to enable teachers to examine their conceptualisation of differentiation and how they currently put it into practice. For example Visser (1993) gives examples of how teachers could approach the evaluation of their teaching skills, how this could be shared with colleagues and thus how they might enhance these skills. In doing so he gives no prescriptive advice on how differentiation should be done. Wiltshire (1992) goes substantially further, with some twenty separate booklets describing different aspects of what it considers contributes to a teacher's ability to differentiate. It also gives a brief exemplar on video of what it suggests is a series of differentiated lessons in science.

A number of authors indicate that differentiation occurs by outcome and that teachers should both plan for it and evaluate it. The implication being that currently differentiation by outcome happens by default. In specific terms of assessment and examinations Gipps (1990), Good (1989), Mathews (1988), Torrance (1987) give teachers information on how these can be differentiated. Payne (1992) advocates that differentiation can only be achieved by outcome and gives examples of how this can be achieved with particular reference to history at the secondary stage.

Few of these sources see the issue of differentiation as a simple one, easily obtainable and requiring but one 'visit to the trough'. Rather it is viewed as a complex task, requiring a high level of professionalism on the part of the teacher, and is an aspect of teaching and learning that needs to be constantly re-evaluated if skills are to be enhanced.

5. A Model of Differentiation in Practice

The last chapter of the study puts forward a model of differentiation in practice. The model is grounded in the evidence presented in the previous chapters and in the professional experience of the author. The model is designed to move the differentiation debate on to explicitly include the interactions of teacher and pupils, rather than the 'input-task-outcome' view of pedagogic differentiation prevalent in much of the literature, and in many schools to date. The model acknowledges the importance of these factors in contributing to differentiation in practice but places the 'knowledge-in-action' of teachers as potentially a more essential feature of differentiation.

The chapter then discusses the potential strengths and weaknesses of the model and the opportunities it presents particularly in relation to initial teacher training and staff development programmes.

Figure 6.0

A Model of Differentiation in Practice

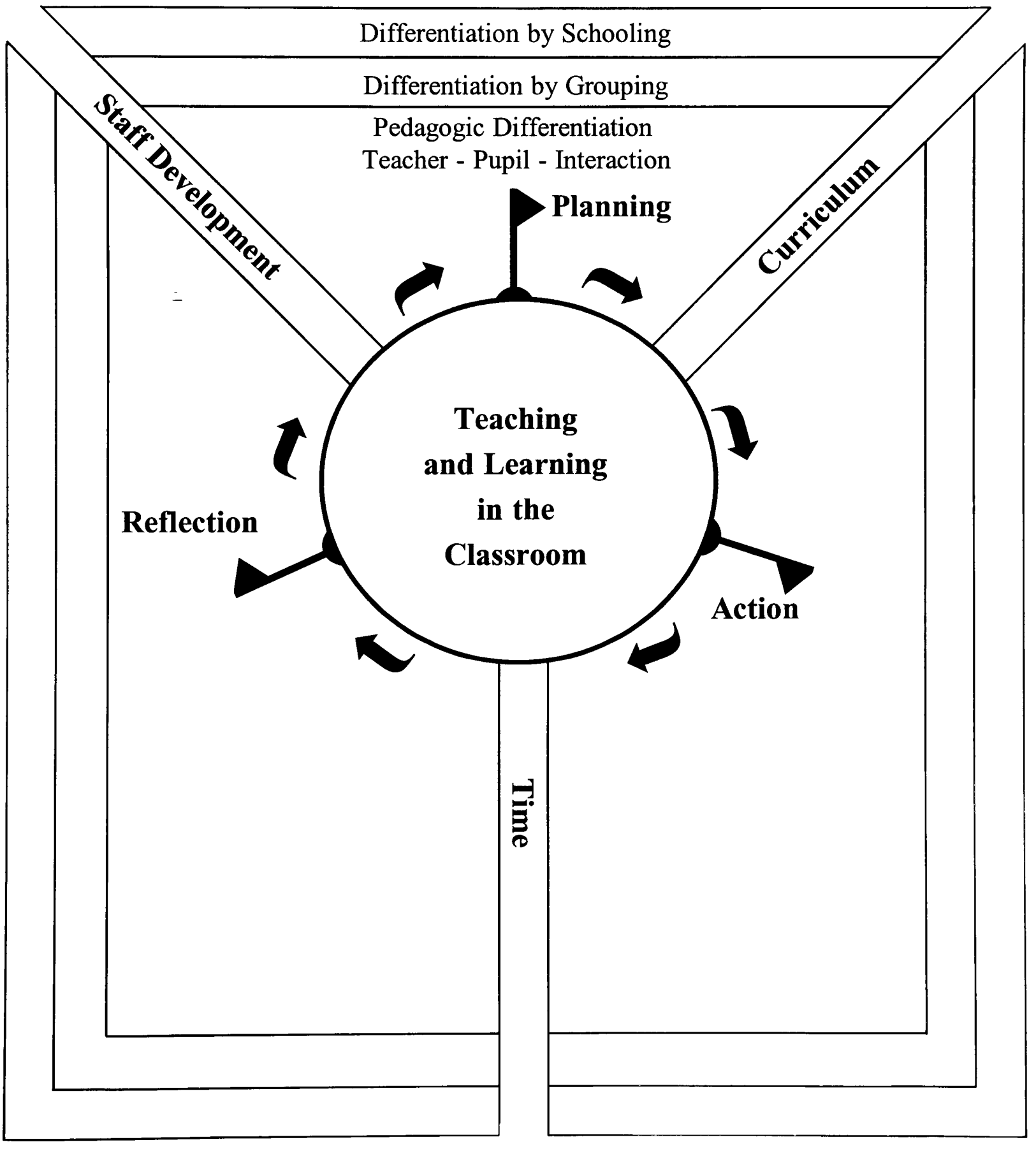


Figure six gives a diagrammatic presentation of differentiation in practice derived from the analysis of the research, literature review and the conclusions drawn by the author to the four original questions. Interspersed within the parts of this chapter are the author's conclusions to these questions, namely:

- How do teachers acknowledge diversity within a common curriculum framework?
- How are secondary school teachers differentiating?
- What factors affect the level of differentiation practised by secondary teachers?
- To what extent is differentiation bound by teachers' perceptions of the context of the teaching and learning situations?

The outer layers acknowledge differentiation between pupils which result in them attending particular schools or being placed in particular groupings. The inner box indicates the differentiation which is pedagogic in nature and finds its expression in the classroom. This differentiation has three component stages, each of which is dependent upon the other two and leads from one to the other. The stages are represented by: planning; action; and reflection. Three factors can limit or enhance differentiation which cut across each form: curriculum; time, and staff development.

Differentiation by Schooling

It is indisputable that differentiated schooling is part of the English educational landscape. It operates according to four different criteria: financial, geographic, educational need and

exclusions. The financial criterion operate where parents choose to buy their child's education within the public sector. It operates at a geographic level when schools have become grant maintained or where city technology colleges have been open and when grammar schools have remained. These schools may select a percentage of their pupils on ability or aptitude criteria. All these schools exist within some LEAs though not all of them. Thus, there is some differentiation between pupils which depends upon their geographic place of abode. These factors enable some schools to be further differentiated by criteria set by the schools concerned. The third form of differentiated schooling refers mainly to pupils for whose educational need is deemed to require a special school where the need can be met. Another form of differentiated schooling is that provided for those pupils excluded from mainstream schools and for whom the LEA provides 'education - otherwise'. This is usually in the form of a pupil referral unit or home tuition.

This latter group of pupils could be said to have differentiated themselves by their behaviour. This begs the question of the extent to which their behaviour has been exacerbated, if not caused by, a lack of pedagogic differentiation. For all the other pupils concerned the differentiation between them has been clearly made by adults: either parents, administrators or educators. Differentiation by schooling is part of wider social and political factors upon which the classroom teacher can have no impact on a day to day basis and can only affect in a wider political sphere by exercising their right to vote.

Pragmatically, much differentiated schooling will be a feature of educational provision for sometime to come. Recent government discussion documents have, for example, clearly stated that special schools for some pupils will remain (DfEE 1997b). Indeed a further group of schools might be created in certain geographical areas within what could be called education action zones (DfEE 1998). While there may be little or no choice of school within the zone, i.e. no differentiated schooling, by the very creation of these zones some differentiated schooling will occur between areas because of positive discrimination. This discrimination may well take the form of enhanced resourcing, specially chosen teachers and a possible exemption from the national curriculum.

Differentiation by Grouping

It is evident that pupils will continue to be grouped in secondary schools by criteria which are set either within or across subject departments . Forms of setting, banding and streaming if not on the increase, are certainly, at the forefront of the current discussions on how best to raise standards (see for example, DfEE 1997a). Pupils also continue to be grouped by age. This author could find no evidence of secondary schools experimenting with vertical age grouping as the primary sector did following the Plowden Report (1967).

The current emphasis on whole class teaching is seen by some as reinforcing the need to group pupils by ability in order to reduce the range of diversity which teachers perceive to be there. Such grouping of pupils has been an educational phenomenon for some considerable time. It is not a new educational trend which will automatically raise standards, or meet the

educational needs of pupils. Evidence within the review of literature indicates that such groupings were a feature of schools under the tripartite system which preceded and continued with the introduction of comprehensive schools in the seventies.

The dangers of an over-individualised education are well rehearsed. As previously indicated in section 3.3.2. an interview respondent referred to the creation of 'differentiation junkies' by the over individualisation of the educative process. Placing children in groups is seen not only as an efficient way of organising the teaching process but effective in terms of their progression. Many of the interview responses indicted that grouping pupils mainly by ability was seen as a form of differentiation.

Implicit and, occasionally, explicit in how and why pupils are placed in different schools and groups are a range of value judgements and beliefs. These often find expression within a wider political forum than just education. Among them are statements concerning 'standards' and 'achievement' which this present government are anxious to see rise. Politicians suggest that by altering or introducing new forms of differentiated schooling, or by placing emphasis upon particular forms of grouping arrangements, standards will inevitably rise. They postulate that current forms of provision have resulted in lower or lowering standards of attainment. However, as Tyre (1994) pointed out in relation to one aspect of the curriculum, if all the official pronouncements are to be believed then standards have been falling since the introduction of compulsory education in 1870, and during this period the various forms of schooling and groupings now being suggested have been tried.

Important as the forms of schooling and grouping are in economic, social and educational terms, to debate these issues in asking questions about 'standards' and 'achievement' is to provide a top down model of improvement. This author can find little evidence that these have contributed to raised or rising standards. What individual pupils achieve will be affected by these forms of provision in terms of what they are taught, and what their perception is of the 'value' placed on the school and/or group in which they find themselves. As such, where pupils are placed, at best, puts a ceiling on what they can achieve and, at worst, lowers the expectation by others of what they are capable of achieving.

Pedagogic Differentiation

If standards are to be raised further the starting point should be the classroom, where teacher and pupils interact. Whatever the results are of pupils being placed in groups within schools, their class teacher will, nevertheless, find a range of diverse abilities, aptitudes and attitudes in a class. It is the teacher's skills in this arena which raises or lowers standards and the achievements of pupils. What is needed is an examination of teachers' skills, in order to provide a *bottom up* approach to raising standards. This might then provide a pedagogical justification for different forms of schooling and groupings.

It has been shown within this study that the importance of the teacher-pupil interaction has been understood since the ancient Greeks. Official literature in England has also pointed to its importance from the Ministry of Education (1944) through to OfSTED (1995). The latter

placing the quality of teaching as important criteria in their inspection of schools. Figure 6 places teaching and learning in the classroom at the centre of understanding differentiation in educational terms.

Planning

The study has shown that while there is literature available which exhorts teachers to plan for differentiation, there is little evidence on what teachers actually do when planning to teach.

The analysis from the questionnaire in the study indicates that for many teachers there may be a common sequence in their planning. It is one which puts the availability of resources higher in the sequence than decisions regarding teaching strategies or pupils' learning styles. This resulted in planning, classroom management and assessment being even lower in the sequence. The position of classroom management is intriguing given that a number of those interviewed indicated that it did play an important part in how they taught once in the classroom. This issue will be returned to later when discussing the model and its relationships to pupils.

The review of the literature and questionnaire results also provides some evidence that teachers are clear about content of their lessons and could articulate their aims. They are often less clear with regard to pupil outcomes. Often these are unplanned, or only planned in terms of an action the pupils will perform, such as completion of a worksheet or the writing of a piece of prose.

There is evidence also that many teachers plan their teaching for the perceived middle of the group and during the process of teaching incorporate actions to meet the needs of the 'less able' and 'the more able'. The latter are often given extension worksheets, which practise the same skill rather than extend a concept. The less able are given adult-intervention to catch up with the average. The learning needs and/or styles of the pupils are rarely a consideration in the original planning of a lesson. Indeed, the evidence from the interviews indicates that when pupils are considered it is more usually in terms of their behaviour, either as individuals or as a group.

The literature, and the analysis of the OfSTED inspection show clearly that differentiation as a match between teaching and learning is lacking in secondary classrooms. A view to which a number of interviewees and senior staff in the questionnaire agree. Though the literature and interviewees list a range of factors which could be behind this fact (to be discussed later) a key element could lie in the way teachers sequence their planning.

If resources come before a consideration of pupils needs, it is possible to speculate that teaching styles are driven more by the resources available than to the learning needs of their pupils. Lessons then become content driven and resource led, rather than led by the pupils' learning needs.

The reasons for this may be pragmatic. Teachers may only have certain resources available to them and this restricts their planning to what they believe possible. A second possibility might lie in their initial training. It may be that the supervision of trainee teachers has concentrated on ensuring that their use of a wide range of resources which causes variations in their teaching styles. The extent to which the learning needs of their pupils in terms of motivation, learning styles, and effects of emotional and social development, may not have featured too strongly in their initiative training.

In planning for differentiation teachers need to start from a clear understanding of what is to be taught, and then to understand the learning needs of their pupils. This combination should lead to the setting of high expectations for pupils in appropriately challenging ways. The strategies will then not only meet the curricular objectives of a lesson but will begin to meet the needs of all pupils in the group. Within this lies the assumption that teachers have, within their professional skills a knowledge of pupils' learning strategies and a knowledge of their pupils. Both these issues are discussed later.

Action

The analysis of interviewees' responses indicates that some teachers see their actions within the classroom as an important aspect of differentiation. These actions, are in part, informed by their planning and are, in part, reactions to pupils' responses within the lessons. If the review of literature is correct, then many of these actions are made unconsciously. They form part of the pace and liveliness of the lesson. These actions

include the skills of negotiation, guiding, encouraging, prompting and questioning. They are all interactional between teacher and pupil and are frequently completed on an individual basis.

It is within this aspect of teaching and learning that the individual needs of pupils may be and are met. The extent to which this is an unconscious action on the part of the teacher is of concern, since it will only occur if the teacher recognises these needs as he or she is teaching. If however, it becomes a totally conscious action, premeditated and planned, the degree of flexibility which provides for meeting unexpected needs is reduced. In the former situation the teacher has to be constantly on the watch for the pupil not thriving in the teaching milieu they have created and then bring to bear immediately alternative strategies. In the latter the teaching can become non-interactive, with each section of the teaching being rigidly structured. As such, it becomes more difficult for the teacher to cater for the individual's needs, unless the teaching is on an individual basis.

Knowledge-in-action depends upon the skill of the teacher, which is generally gained through experience rather than through explicit training. As indicated above, it is rarely made explicit. It also tends to occur at points in the lesson when the teacher perceives pupils to be failing to engage or make progress in a topic.

The model suggests that these actions should be informed by planning and in turn inform the reflective process. Planning which incorporates a greater awareness and knowledge of

the pupils learning strategies and places this higher in the planning sequence, may provide teachers with a greater understanding of the skills required for knowledge-in-action skills used in conjunction with the broad teaching strategies they have decided upon. It could assist them in understanding the individual pupil and enable him or her to progress and achieve whilst being part of a group. Part of this will require decisions to be taken as to whether to whole class teach, employ group work, or work in pairs, in order for the form of organisation to allow the teacher to interact with pupils in the most economical manner in the time available.

Reflection

The evidence in this study suggests that reflection is a process which is not seen in many teachers' repertoire in any formal manner. The review of literature strongly concurs with this view. There is some evidence by the interviewees of them remembering what worked previously in lessons, and then incorporating this into their planning. Reflection in terms of a broad view of what worked well, is recognised as being a part of teachers' reflective process. Reflection in terms of specific questions such as, "what did I (the teacher) do?" what was the pupil(s) response?" and "how will this inform my (the teacher's) planning?" appear to be less frequent, according to the literature. Indeed this study indicates that teachers' believe the assessment of pupils learning is as end in itself rather than as a process which could inform their teaching.

A further aspect of reflection arising within the study is the degree to which a teacher's teaching intentions are the same as those which their pupils perceive. The author suggests these two perceptions are not as congruent as often as teachers believe it to be. The consequence is that what teachers believe they have taught is not what pupils have learnt. Teachers need to build into their reflective practice a means for checking the degree of congruence achieved. This is perhaps best achieved by having a clarity of purpose for each lesson which is explicitly shared with the pupils concerned, and can be assessed at the end of a lesson or series of lessons, as part of the teacher's reflective process.

Curriculum

The evidence from the questionnaire and the interviews show that individual subjects appear to present no particular advantages or disadvantage to the teacher who wishes to enhance their teaching through differentiation. The analysis of the OfSTED inspection reports supports this with no one particular subject showing that it predominates in adverse comments with regard to the extent of differentiation in lessons.

Currently, the national curriculum in England and Wales is part of a common curriculum for all pupils, except for those pupils' attending public schools and pupil referral units. It was designed to provide breadth, balance, relevance and differentiation as part of a whole curriculum. It was interpreted by most schools to be the entire curriculum, with Religious Education incorporated. The timetables in schools reflected breadth and balance with almost a rigid adherence to the guidance for the time allocated to each subject. The

concept of relevance and differentiation was a secondary factor in overall curricular planning. Since the 1988 Education Reform Act, emphasis in planning the curriculum has been upon breadth and balance.

Recent revisions of the National Curriculum and the present governments' edict to reduce the requirements of schools to follow the full key stages 1 and 2 programmes of study, may provide greater flexibility, but may also re-introduce a differentiated curriculum in terms of the subjects taught. The reduction of national curriculum content at key stage four to sixty per cent of the whole curriculum, together with alternative accreditation courses to GCSE, may further lead to differentiation between groups of pupils. The literature indicates that such a differentiated curriculum has deleterious effects on pupils achievements as pupils, teachers and society at large place a lower value on alternative courses and accreditation.

In placing the curriculum between planning and action in figure 6.0 the author wishes to indicate that teachers need to take these deleterious factors into account, and counteract them by ensuring that the quality of planning and subsequent actions within the classroom are of the same order, regardless of the curriculum content. Perhaps by ensuring a high order of pedagogic differentiation it can be shown that it is not the curriculum, nor differentiation by school or group so much as the quality of the pupil and teacher interaction, which is the key to raising achievement within school.

Staff Development

The interview responses indicate that staff development was an issue for teachers. A number indicated that their initial-teacher training did not prepare them sufficiently in terms of differentiation. Some clearly felt that they were 'trained' to teach to the middle of a group. One respondent spoke for a number when he indicated that he had never reflected on the nature of pupils' learning strategies as having an effect on their learning. Others pointed to a need for further explanation and guidance on differentiation within teaching and learning. Moreover, others indicated that periods spent observing other teachers would help to widen their experience of what was possible with regard to differentiation.

Along with training issues the literature and interview respondents mention teacher confidence as an issue in ensuring differentiation. This appears both as self-confidence in their professional abilities and confidence placed in them by others. It is the author's experience in working with teachers that they are prone to self-depreciation rather than to self grandiosement. They are quick to respond to what has gone wrong in their teaching, and ready to or even perhaps able to indicate what was successful.

It is most appropriate to place staff development between reflection and planning. Reflection on practice should identify for the teacher areas in their professional abilities which they need to address, as they move on to planning the next lesson(s).

Time

Time is the factor which occurs in all sections of this study as affecting differentiation. It does so because, to state the obvious, it is a finite quantity: there is only so much of it. The pressure on using this quantity to best effect in pedagogic differentiation comes from three sources: workload priorities; professional knowledge; and class sizes.

Teachers feel that much of their professional time is currently taken up with activities which are not, or they feel are not, directly related to their teaching. They often fail to see activities such as marking and report writing as relating to their teaching. It would appear that these activities become ends in themselves rather than a means to the end of teaching and learning. They are perceived as taking up time which could be spent on planning and preparation. The evidence for this lies in the responses made by interviewees and in the literature associated with a lack of differentiation.

The literature also indicates that professional knowledge is a factor, in a lack of differentiation. The degree to which the teacher has a good understanding of the subject matter being taught has an effect on the time spent in preparation. Those for whom their knowledge is weak tend to rely upon written published schemes. Time is spent seeking out resources which may or may not be of use. Though a sufficiency of material resources is a factor it is the time used in knowing their potential and whereabouts which are important. The extent to which alternative ways of conveying the curriculum content effectively appears to be crucial. In pursuit of resources teachers frequently overlook the

most crucial one, themselves. Time is taken up seeking or preparing resources which could, perhaps, be more usefully used in considering their teaching strategies and learning needs of pupils.

Class size was hardly mentioned in the interviews as a factor in differentiation except in relation to their knowledge of pupils, but does receive attention in the literature. Class size in relation to time becomes a factor when the pupil-teacher ratio poses problems, not only for the teacher to get to know his or her pupils but also being able to use their 'knowledge-in-action' to engage individuals in the learning. There is a concomitant side to this. Class-sizes can be too small if pupils are to learn and engage with each other in groups. Pupils can have too much 'time' from adults so they have little or no opportunity to learn for themselves.

In the model, 'time', is placed between 'action' and 'reflection' because the author feels that within pedagogic differentiation teachers need to reflect and focus on their management of time in relation to the priority of their actions within the classroom.

Pupils

At the heart of differentiation and in the model (figure 6.0) lies the pupils and the teacher. Three facets of pupils would appear to be important: their learning styles; their abilities; and their behaviour. There is some debate surrounding the constructs of learning style and ability. There is certainly a wealth of literature on these two aspects but no definitive

conclusions can be drawn from them. Psychological literature also contains a range of cognitive learning theories which, at one stage, formed part of teachers' initial training. The extent to which knowledge of this informs teachers' planning, actions and reflections is in doubt. Anecdotal evidence from in-service training days suggests that few, if any, teachers consider these factors in their teaching. Yet, this author suggests, teachers must have an implicit understanding of how their pupils learn which does inform the strategies they use. There is a need for further investigation in this area.

It is frequently pointed out within the literature, and the interviewees concur, teaching styles and the work given to pupils are frequently governed by the pupils' behaviour. As discussed in earlier chapters this approach appears to beg the question which came first: the behaviour or the approach to teaching and workset by the teachers? This is not to imply that all pupils come to school able to display socially acceptable behaviour conducive to learning all the time. Rather, it is to point out that on the whole pupils who are engaged in their learning have little time or inclination to misbehave.

Teacher

Much has already been said about teachers in the study. As professionals they are the instigators of the teaching and learning process. It is their professional skills which enables differentiation to take place. On reading the discourse of this chapter the reader may perceive a negative view of teaching. This author would not wish to support this view. The literature and the field research has highlighted a number of negative factors,

not least that there is a lack of differentiation in classrooms. This is not to say it never takes place, nor that there are not teachers whose ability to differentiate is exemplary. The lack of differentiation is apparent, in part, because there is an ideal, which the model seeks to portray, and in part because there are teachers who do differentiate extremely well. There is little research evidence on how they do this.

General Points

The model seeks to display 'universals': planning; action; and reflection, which apply to all teaching and learning situations. In doing so it seeks to acknowledge the uniqueness of each classroom, by indicating that these universals surround any classroom where teaching and learning take place, while the interactions they engender remain unique to that teacher with that class.

An underlying premise for the model, and one which is argued in earlier chapters to be central to differentiation, is that all pupils are of equal value, no matter how they are grouped, or which school they attend.

It could be argued by some that information communication technology (ICT) will in the near future, revolutionise teaching and learning. It will enable individuals to easily access information in a variety of forms, in surroundings which they can choose, and that they will be able to progress through the information at their own pace. This may be so However, human learners have always had their learning mediated by human teachers.

Children learn because of the nature of the relationship between teacher and taught. Teachers will always need to plan, act and reflect perhaps using ICT to produce pedagogic differentiation if individuals in their learning groups are to be enabled to achieve.

6. Conclusions

This model set out to explore four questions around the term differentiation. In exploring the first, the study has found that teachers acknowledge diversity largely by grouping pupils by ability and by allowing outcomes to vary from pupil to pupil. This is also how they differentiate. The literature and practitioners have no clear, elucidated view of what differentiation is. However, as a term it is largely used to refer to a match of some sort between teaching and learning. Given this lack of ambiguity the fourth question proved difficult to answer, whereas the third brought forth a wide range of factors.

The author has attempted in this study to bring some clarity into the debate and has proposed a model of differentiation in practice which could enable teachers to explore further how they can enhance their levels of differentiation. The model also provides a theoretical basis for understanding differentiation which can be tested by examining good practice.

The model does not purport to be a manual of how to teach. This author agrees entirely with Wragg (1998) when he says:

> 'I have studied classrooms for more than 25 years noting down events, studying individual pupils, interviewing teachers and students, testing achievement, reading research literature. Nowhere can I find philosopher's stone, the single teaching method that turns all to gold'
>
> Wragg 1998 p.136

Sustaining all the work that has gone into this study and the professional practice that relates to it is the author's belief in the importance of building upon what children do as learners and to encourage the diversity which makes for their uniqueness.

> 'Each child's resources and strengths must be the deciding factors in (teaching groups of pupils). We would do better to look for strengths and recognise that these will be different for different children. Differences offer hope because they provide the possibility of alternative routes for development, educational and personal fulfilment. We should rejoice in them and capitalise on them. They are after all, the very stuff of life.
>
> Connolly 1993, p943.

References

Ainscow, M. (1991) (Editor) *Effective Schools for All.* London, David Fulton.

Ainscow, M. (1993) Beyond special education: some ways forward in Visser, J. and Upton, G. (Editors) *Special Education in Britain after Warnock.* London, Fulton.

Alexander, R., Rose, J. and Woodhead, C (1992) *Curriculum Organisation and Classroom Practice in Primary Schools: A Discussion Paper.* London. D.E.S.

Arnold, B. and Heaton, J. (1993) *Effective Teaching and Learning in Mixed Ability Science Classes.* Aberdeen, Northern College.

ASE (1991) Science for all, unpublished conference document by Humberside County Council.

Ashdown, R., Carpenter, B., and Bovair, K. (1991) *The Curriculum Challenge.* London, Falmer Press.

Aspey, D. and Roebuck, E. (1977) *Kids Don't Learn From People They Don't Like.* Mass. Human Resource Development Press.

Atfield, R. (undated) Individual needs and flexible learning - a framework for differentiation and progress. Unpublished paper for Salford Education Authority.

Audit Commission/HMI (1992) *Getting the Act Together* London, HMSO.

Banner, G. and Rayner, S. (1997) Teaching in style: are you making the difference in the classroom? *Support for Learning.* 12, 1 pp.15-18.

Barthorpe, T. and Visser, J. (1991) *Differentiation: Your Responsibility.* Stafford, NASEN.

Barthorpe, T. (1992) *Differentiation- Eight Ideas for the Classroom.* Scunthorpe, Desktop Publications.

Barton, L. and Tomlinson, S. (1984) (Editors) *Special Education and Social Interest.* Beckenham, Croom Helm.

Bearne, E. (1996) (Editor) *Differentiation and Diversity.* London, Routledge.

B.E.L.B. (1990) *Differentiated Provision in Secondary Schools.* Belfast, Belfast Education and Library Board.

Bell, P. (1989) Policy for integration using supportive education; in Evans, R. (Editor) *Special Educational Needs; Policy and Practice.* Oxford, Basil Blackwell.

Bell, P. and Best, R. (1986) *Supportive Education.* Oxford, Basil Blackwell.

Bell, P. and Kerry, T. (1982) *Teaching Slow Learners in Mixed Ability Classes* London, Macmillan.

Bennett, N. (1991) The quality of classroom learning experience for children with special educational needs, in Ainscow, M.(Editor) *Effective Schools for All.* London, David Fulton.

Bennett, N. (1993) Knowledge bases for learning to teach, in Bennet, N. and Carre, C. (Editors) *Learning to Teach.* London, Routledge.

Bennett, N. and Carre, C. (1993) *Learning to Teach.* London, Routledge.

Bennett, N.; Deforges, C.; Cockburn, A. and Wilkinson, B. (1984) *The Quality of Pupil Learning Experiences.* London, Earlbuam Associates.

Berger, A. and Mitchell, G. (1978) Multitudes of sin-bins, *Times Educational Supplement* 7.7.78.

Berkshire (1993) *Planning for Differentiation and Sc1 Assessment.* Berkshire Science Support Team, Berkshire LEA.

Beveridge, S. (1993) *Special Educational Needs in Schools* London, Routledge.

Biggs, J. (1993) What do inventories of students' learning processes really mean? A theoretical review and clarification. *British Journal of Educational Psychology*, 63,1, p3-19.

Bignall, L. (1991) Differentiation paper at NARE Annual Conference 2nd April 1991 in Humberside.

Blamires, M. (1996) Differentiation. http://www.canterbury.ac.uk/departments/teached/sen/xplanatory/diff.htm

Board of Education (1944) (Thirteenth Impression) *Handbook of Suggestions for the Consideration of Teachers and Others Concerned in the Work of Public Elementary Schools.* London. HMSO

Booth, T and Coulby, D. (1987) *Producing and Reducting Disaffection.* Milton Keynes, Open University Press.

Bourne, R.; Davitt, J. and Wright, J. (1995) *Differentiation: Taking IT Forward.* Coventry, NCET.

Brandes, D. and Ginnis, P. (1990) *The Student Centred School.* Oxford, Blackwell.

Brennan, W.K. (1979) *The Curricular Needs of Slow Learners.* London, Evans/Methuen Educational.

Brennan, W.K. (1985) *Curriculum for Special Needs.* Milton Keynes, Open University Press.

Brophy, S. and Gints, H. (1976) *Learning from Teaching.* Boston, Allyn and Bacon.

Brown, G. (1991) *Some More Equal Than Others.* Leicester, British Psychological Society.

Brown, S. and McIntyre, D.(1993) *Making Sense of Teaching.* Buckingham, Open University Press.

Burgess, R. (1985a) *Strategies of Educational Research: Qualitative Methods.* London. Falmer Press.

Burgess, R. (1985b) In the company of teachers: key informants and the study of a comprehensive school in Burgess R.(Editor) *Strategies of Educational Research: Qualitative Methods.* London, Falmer Press.

Burton, L. (1994) Report of Commission on the quality of teaching in the school of education. Unpublished paper from School of Education, University of Birmingham.

Byram, M. (1996) Framing the experience of residence abroad: the pedagogical function of the informal interview. *Language Culture and Curriculum.* 9.1.pp 84-98.

Cambridge (1992) *Learning Now: The Cambridgeshire Experience in Special Educational Needs.* Cambridge, Cambridge County Council, Education Service.

Cambridge (1992) *Evaluation: Differentiated Learning. A Report by the Cambridge Inspectorate.* Cambridge, Cambridge LEA.

Campbell, I. (1993) Response to Chitty, in Chitty, C. (Editor) *The National Curriculum - Is It Working*? London, Longman.

Carbo, M. and Hodges, H. (1988) Learning style strategies can help students at risk. *Teaching Exceptional Children*, Summer 1988 pp55-58.

Carr, J., McGuiness, S., Oatey, J and Holder, A. (1992) Individual programmes using IT. *British Journal of Special Education.* 1, 2, pp35-38.

Carrier, J. (1984) Comparative special education: ideology, differentiation and allocation in England and the United States, in Barton, L. and Tomlinson, S. (Editors) *Special Education and Social Interests.* London, Croom Helm.

Charmaz, K. (1995) Grounded theory, in Smith, J.; Harre, R. and Laangenhore, L.van (Editors) *Rethinking Methods in Psychology.* London, Sage.

Chitty, C. (1989) *Towards a New Education System.* London, Falmer Press.

Chitty, C. (1993) *The National Curriculum: Is It Working*? London, Longman.

Clark, C.M. and Peterson, P.L. (1986) Teachers' thought processes in Wittrock, M.E. (Editor) *Handbook for Research on Teaching* New York, Macmillan.

Clarke, J. (1991) Special needs and school improvement: The role of the local education authority, in Ainscow, M. (Editor) *Effective Schools for All.* London, David Fulton.

Clough, P. and Thompson D. (1987) Curriculum approaches to learning difficulties: Problems for the paradigm, in Franklin, B. (Editor) *Learning Disabilities Dissenting Essays.* Brighton, Falmer Press.

Clough, P. and Barton, L. (1995) *Making Difficulties: Research and the Construction of SEN.* London, Paul Chapman.

Cockcroft (1982) *Mathematics Counts: A Report of the Commission of Enquiry into the Teaching of Mathematics.* London, HMSO.

Cohen, L. and Manion, L. (1994) (4th Edition) *Research Methods in Education.* London, Routledge.

Cole, T. (1993) *Special Educational Needs: Historical Perspectives*. Birmingham. University of Birmingham.

Cole, T.; Visser, J. and Upton, G. (1998) *Effective Schooling for Pupils with Emotional and Behavioural Difficulties.* London, Fulton.

Collins, J. and Taylor, C. (1992) Differentiation at key stage 3- mathematics and history. *All-In Success* 4.3. p8-10.

Collins, M. (1991) Differentiation: Warnock revisited. *Perspective*. October 1991, p16-17.

Connolly, K.J. (1993) In praise of difference. Developmental Medicine and Child Neurology. 35, 11. pp 941-943.

Convery, A. and Coyle, D (1993) *Differentiation - Taking the Initiative*. Stafford, CILT Publications.

Cooper, P. and McIntyre, D (1996) *Effective Teaching and Learning* Buckingham, Open University Press.

COP (1994) *The Code of Practice on the Identification and Assessment of Pupils with Special Educational Needs.* London, DfEE.

Copeland, I.; Ayles, R.; Mason, H. and Postlewaite, K. (1993) LEA Support for SEN pupils: Two years on from the 1990 SENNAC survey. *Support for Learning* 8. 2. p43-50.

Corno, L. and Snow, R.E. (1986) Adapting teaching to individual differences among learners, in Wittrock, M.E. (Editor) *Handbook for Research on Teaching.* New York, Macmillan.

Cornwall (1992) A brief resume of schools' responses to differentiation questionnaire. Unpublished paper by Cornwall LEA for inservice day 21-01-93. Newquay, Cornwall.

Craig, I.(1990) (2nd Edition) *Managing the Primary Classroom.* London, Longmans.

Crouch, J. (1992) Access to national curricular science at key stage 3 and 4. *All-In-Success*, 4, 2, p22-23.

Cruise, C. (1991) Differentiation project, unpublished project report for Wiltshire LEA.

Curry, L. (1983) An organisation of learning styles theory and constructs *ERIC Document.* pp235-185

Daniels, H. (1993a) Coping with mathematics in the national curriculum: pupil strategies and teacher responses. *Support for Learning* 8, 2, p65-69.

Daniels, H. (1993b) Educational responses to diversity: responsibilities and choices in differentiation. *Curriculum* 14, 3, pp157-162.

Dearing, R. (1994) *The National Curriculum and its Assessment:* Final Report. London, School Curriculum and Assessment Authority.

Dean, J. (1996) *Beginning Teaching in the Secondary School* Milton Keynes, Open University Press.

D.E.S. (1980) *A View of the Curriculum.* London, HMSO

D.E.S. (1985) *The Curriculum From 5 to 16.* London, HMSO

D.E.S .(1984) *Slow Learning and Less Successful Pupils in Secondary Schools: Evidence from some H.M.I. Visits.* London, D.E.S.

D.E.S. (1986) *Better Schools.* London, HMSO (cmnd 9469)

D.E.S. (1989a) *A Survey of Pupils with Special Educational Needs in Ordinary Schools : A Report by H.M. Inspectors.* London, D.E.S.

D.E.S. (1989b) *Science Non-Statutory Guidance and Programmes of Study. Part 6: Differentiation and Statements of Attainment.* London, D.E.S.

D.E.S. (1989c) *National Curriculum From Policy to Practice*. London, D.E.S.

DfE (1992) Better differentiation in GCSE. *Schools Update*. Summer 1992. p10

DfEE (1994) *The Code of Practice on the Identification and Assessment of Special Educational Needs.* London. DfEE.

DfEE (1997a) *Excellence for All.* London, DfEE.

DfEE (1997b) *Excellence for All: Special Educational Needs*. London, DfEE.

Deforges, C. (1985) Matching the tasks to children, in Bennett, N. and Deforges, C. (Editors) *Recent Advances in Classroom Research.* Edinburgh, Scottish Academic Press.

Delamont, S. and Galton, M. (1986) *Inside the Secondary Classroom.* London, Routledge and Kegan Paul.

Dessant, T. (1988) *Making the Ordinary School, Special.* Brighton, Falmer Press.

Devon (1992) *A County Survey of Differentiation at Key Stage 3 in Devon.* Exeter, Devon Education Authority.

Dewey, J. (1934) *Art As Experience.* New York, Minton.

Dickinson,C. and Wright, J. (1993) *Differentiation: A Practical Handbook of Classroom Strategies*. Coventry, NCET.

Dransfield, R. (1994). Differentiation in business education. *Business Education.* May/June pp.35-39.

Drummond, M. J. (1993) *Assessing Children's Learning* London, David Fulton.

Duffy, M. (1990) A view from a secondary school in Brighouse, T. and Moon, B. (Editors) *Managing the National Curriculum.* London, Longman.

Dyson, A. (1993) A review of differentiation: ways forward, in *European Journal of Special Needs Education* 8, 2, pp181-182.

Edwards, T. (1993) *Review* of Bennett & Carre (1993) Learning to Teach. *TES* p.10 21-593.

Eggleston, J. (1977) *The Sociology of the School Curriculum.* London, RKP.

Elliott, S,; Mills, G.; Stephenson, P. and Underwood, H. (1992) *Differentiation: An Inset Training Package.* Lewes, Advisory Teachers for Special Educational Needs, East Sussex LEA.

Elton, (1989) *Discipline in Schools: Report of the Committee of Enquiry.* London, HMSO.

Enfield (1992) Differentiation: Special Educational Needs issues, unpublished London Borough of Enfield document for special needs co-ordinators.

Entwistle, N. (1990) *Handbook of Educational Ideas and Practice.* London, Routledge.

ERA (1988) *Education Reform Act 1988* London. HMSO

Erickson, F. (1986) Qualitative methods in research on teaching, in Wittrock, M.E. (Editor) *Handbook for Research on Teaching.* New York, Macmillan.

Falconer-Hall, E. (1991) Differention of the curriculum in secondary schools. Dissertation part submission for M.Sc.; Open University.

Falconer-Hall, E. and Coates, P. (1993) *Differentiation.* Trowbridge, Wiltshire Psychological Service.

Feldman, R.S. (1990) (2nd Edition) *Understanding Psychology.* New York, McGraw-Hill.

Falconer-Hall, E (1993) *Differentiation.* Trowbridge, Wiltshire Psychological Service

Fenstermacher, G.D. (1986) Philosphy of research on teaching: three aspects. in Wittrock, M.E. (Editor) *Handbook for Research for Teaching.* New York, Macmillan.

Finlow, D. (1994) Differentiation Maths: Resource Pack. *Special Children*, Oct. 1994.

Finnegan, R. (1996) Using documents in Sapsford, R. and Jupp, V. (Editors) *Data Collection and Analysis.* London, Sage.

Fish, J. (1985) *Special Education: The Way Ahead.* Milton Keynes, Open University Press.

Fleming, H.; Dadswell, P. and Dodgson, H. (1990) Reflections on the integration of children with learning difficulties into secondary mathematics classes. *Support for Learning*, 5, 4, p180-185.

Fletcher, P. (1993) *Differentiation - Guidelines for Practice.* Trowbridge, Wiltshire Psychological Services.

Fox, M. (1993) *Psychological Perspectives in Education.* London, Cassell.

Frankfort-Nachmias, C. and Nachmias, D. (1996) (5th Edition). *Research Methods in the Social Sciences.* London, Arnold.

Fuchs, L. S.; Fuchs, D. and Bishop, N. (1992) Teacher planning for students with learning disabilities : differences between general and special educators. *Learning Disabilities Research and Practice* 7, p120-128.

Galloway, D. (1985) *Schools, Pupils and Special Educational Needs.* Beckenham, Croom Helm.

Galton, M., Simon, B. and Croll, P. (1980) *Inside the Primary Classroom* London, Routledge and Kegan Paul.

Galton, M. and Willcocks, J. (1983) *Moving From the Primary Classroom* London, Routledge and Kegan Paul.

Gamoran, A. (1989) Measuring curriculum differentiation. *American Journal of Education.* 97, 1, pp 129 - 143.

Gerber, M.M. and Semmel, M.I. (1985) The micro-economics of referral and re-integration: a paradigm for evaluation of special education. *Studies in Education Evaluation.* v.11pp 13-29.

Gewirtz, S. et al. (1994) Choice, competion and equity: lessons from research in the UK. paper presented at the annual meeting of the American Educational Research Association, ERIC access no. ED374523.

Gillett, H. G. (1995). The philosophical foundations of qualitative psychology. *The Psychologist.* 8, 3 pp 111-114.

Gipps, C.; Gross, H. and Goldstein, H. (1986). *Warnock's Eighteen Per Cent.* Lewes, Falmer Press.

Gipps, C. (1990) *Assessment: A Teachers' Guide To The Issues.* London, Hodder and Stoughton.

Good, F. (1989) Setting common examination papers that differentiate. *Educational Studies* 15, 1, p67-82.

Goodfellow, J. (1994) Differentiation. unpublished material for a staff development day given at Mill Wharf, Birmingham 26 September 1994.

Greenhalgh, P. (1994) *Emotional Growth and Learning.* London, Routledge.

Griffey, S. and Kelleher, M. (1996) How do people learn? Connecting practice with theory. *Training Matters* 5 Autumn pp. 3-9.

Gubbins, E.J. (1994) When differentiation becomes disconnected from the curriculum. The *National Research Centre for the Gifted and Talented*, Newsletter. Winter 1994, pp1- 2.

Guerro, F. (1990) *Collaborative Learning and Computors : What Some New York Teachers Are Doing.* New York, City Board of Education.

Hall, D. (1995) *Assessing the Needs of Bilingual Pupils: Living in Two Languates.* London, David Fulton.

Hargreaves, D. (1967). *Social Relationships in a Secondary School:* London, Routlege and Kegan Paul.

Hargreaves, D.(1982) *The Challenge for the Comprehensive School. Culture, Curriculum, Community.* London, Routledge.

Harland, J. (1988) Upper secondary curriculum in England and Wales: current developments and emerging structures. *Journal of Curriculum Studies* 20, 5, p407-422.

Harland, J.; Stradling, R. and Dias, O. (1988) *Framework for Learning.* Slough, NFER.

Hart, S. (1991) Differentiation and the national curriculum: Way forward or retreat? Paper at the CSIE Conference, 8th Nov.1991.

Hart, S. (1996) (Editor) *Differentiation and the Secondary Curriculum: Debates and Dilemas.* London, Routledge.

Hayden, C. (1997) *Children Excluded from Primary School: Debates, Evidence, Responses. Buckingham.* Open University Press.

Hegarty, S., Pockington, K. and Lucas, D. (1981) *Educating Pupils with Special Needs in the Ordinary School.* London, NFER/Nelson.

Hegarty, S. et al (1992) Litigation in Action: Case Studies in the Integration of Pupils with Special Educational Needs. Windsor, NFER/Nelson.

Helios II (1996) *European Guide of Good Practice Towards Equal Opportunities for Disabled People.* Brussels, European Commission.

Henwood, K. and Nicholson, P. (1995). Qualitative Research. *The Psychologist.* 8. 3. pp109-110.

Henwood, K. and Pidgeon, N. (1995). Grounded theory and psychological research. *The Psychologist.* 8.3. pp.115-118.

Hinton, S. (1990) The national curriculum and special educational needs in the early years. *Support for Learning*, 5, 2, p80-81.

H.M.C.I. (1996) *Annual Report of Her Majesty's Chief Inspector* 1996 London. OfSTED.

H.M.I. (1977) *Ten Good Schools: A Secondary School Enquiry.* London. HMSO.

H.M.I. (1980) *Truancy and Behaviour Problems in Some Urban Schools.* London, HMSO.

H.M.I. (1984) *Slow Learning and Less Successful Pupils in Secondary School.* London. HMSO.

H.M.I. (1985) *Curriculum Matters 2: The Curriculum 5 to 16* London, HMSO.

H.M.I. (1989) *Education Observed 12: The Lower Attaining Pupils' Programme.* London, HMSO.

H.M.I. (1990a) Differentiation within the school curriculum. Unpublished paper given at NARE conference.

H.M.I. (1990b) *Aspects of Primary Education : The Teaching and Learning of Language and Literacy.* London, HMSO.

H.M.I. (1991) *Aspects of Primary Education: The Teaching and Learning of Science.* London, HMSO.

H.M.I. (1992a) *Education Observed: The Education of Very Able Pupils in Maintained Schools.* London, HMSO.

H.M.I. (1992b) *Special Needs and The National Curriculum 1990-91.* London, HMSO.

H.M.I. (1993a) *The Education of Able Pupils, P6-S2.* Edinburgh, Scottish Office.

H.M.I. (1993b) *Special Needs and the National Curriculum.* London. HMSO.

Hollander, P. (1996) Differentiation strategies for more able pupils in primary school classrooms. *Flying High* Spring 1996 pp.29-31.

Housden, P. (1993) *Bucking the Market : LEAs and Special Needs.* Stafford, NASEN.

Ingleson, S. (1982) Creating conditions for success in mixed-ability classes in Sands, M. and Kerry, T. (Editors) *Mixed Ability Teaching.* London, Croom Helm.

James, F. (1995) *The Primary File Guide to the Special Needs Code of Practice.* London, Primary File Publishing.

Johnson, L.J. and LaMontagne, M.J. (1993) Research Methods: Using content analysis to examine the verbal or written communication of stakeholders within early intervention. *Journal of Early Intervention* 17, 1, pp73-79.

Jonassen, H.D. and Grabowski, B.L. (1993) *Handbook of Individual Differences: Learning and Instruction.* London, Lawrence Erlbaum Ass.

Joseph, K. (1984) Speech at the North of England Education Conference, Sheffield. *Oxford Review of Education* 10, 3, p137-146.

Joyce, B., Calhoun, E. and Hopkins, D. (1997). *Models of Learning - Tools for Teaching.* Buckingham, Open University Press.

Jupp, V. (1996) Documents and critical research in Sapsford, R. and Jupp. V. (Editors). *Data Collection and Analysis.* London, Sage.

Kelly, A.V. (1974) *Teaching Mixed Ability Classes: An Individualised Approach.* London, Harper Row.

Kerry, T. (1982) *Mixed Ability Teaching in the Early Years of the Secondary School.* London, Focus Books.

Kerry, T. (1982) The demands made on pupils' thinking in mixed ability classes, in Sands, M. and Kerry, T. (Editors). *Mixed Ability Teaching.* London, Croom Helm.

Kershner, R. and Pointon, P. (1996) Learning how children learn. *Primary School Manager.* March/April. p20-22.

King, V. (1990) Differentiation is the Key. *Language and Learning* 3, p22-24.

Kirk, S.A.; Gallagher, J.J. and Anastasiow, N.J. (1993) (7th Edition) *Educating Exceptional Children.* Boston, Houghton Mifflin.

Kyriacou, C. (1991) *Essential Teaching Skills.* Oxford, Basil Blackwell.

Kyriacou, C. and Wilkins, M. (1993) The impact of the national curriculum on teaching methods at a secondary school. *Educational Research* 35, 5, pp 270 -276.

Lacy, C. (1970) *Hightown Grammar.* Manchester, Manchester University Press.

Landy, M. (1992) Differentiation at key stage 3. *All-In-Success* 4, 3, p18-21.

Larcombe, T. (1987) Differentiation - Rhetoric or Practice. *Support for Learning,* 2, 4, p46-50.

Laslett, R. (1997) *Educating Maladjusted Children.* London, Crosby Lockwood Staples.

Laycock, M. (1994) The quest for differentiation at Wisewood School. *All-in Success,* 5, 2, pp16-18.

Lewis, A. (1991) *Primary Special Needs and the National Curriculum.* London, Routledge.

Lewis, A. (1992) From Planning to Practice, in Peter, M. (Editor) *Differentiation Ways Forward.* Stafford, NASEN.

Leyland, P. (1996) Daring to differentiate. *Questions* November/December 8.2.

Librarian Editorial (1991) What works: differentiated programming for gifted students. *Emergency Librarian* 18, 3, p33

Luscombe, J. (1993) Rethinking the role of the special needs co-ordinator: developing the remedial department, in Dyson, A. and Gains, C. (Editors) *Rethinking Special Educational Needs in the Mainstream School: Towards the Year 2000.* London, Fulton.

McClean, S. (In Press) A Study of Behaviour in a Secondary School: An unpublished Ph.D. thesis. University of Birmingham, Birmingham.

McKay, R. (1991) *Special Needs: A Whole School Approach.* University of Leicester, Centre for the Study of Comprehensive Schools.

McIntyre, D. and Postlewaite, K. (1989) Attending to individual differences : A conceptual analysis, in Jones N. (Editor) *Special Educational Needs Review vol. 2.* Brighton, Falmer Press.

McIntrye, D. (1993) Special needs and standard provision, in Dyson, A. and Gains, C. (Editors) *Rethinking Special Needs in Mainstream Schools: Towards the Year 2000,* London, Fulton.

McManus, M. and McManus J. (1992) Meeting needs of indivduals. *Child Education,* March 1992 p42-43.

McParland, J.M. and Crain, R.L. (1987) Evaluating the trade offs in student outcomes from alternative organisation policies in Hallinan M.T. (Editor) *The Social Organisation of Schools.* New York, Plenum.

Maslow, A. (1976) *The Further Reaches of the Human Mind.* Harmonsworth, Penguin.

Marshall, C. and Rossman, G.B. (1989) *Designing Qualitative Research.* London, Sage.

Mathews, H. (1988) *Workbook 7: Differentiation.* Cardiff, Welsh Joint Education Committee.

Marjoram, T. (undated) *Differentiation and More Able Children.* Northampton, National Association for Curriculum Enrichment and Extension.

Measor, L. (1985) Interviewing: a strategy in qualitative research in Burgess, R. (Editor) *Strategies of Educational Research: Qualitative Methods.* London: Falmer Press.

Mercer, C.D. and Mercer, A.R. (1985) (2nd Edition) *Teaching Students with Learning Problems.* Columbus, Charles E. Merrill.

Merrett, F. and Wheldall, K. (1993) How do teachers learn to manage classroom behaviour? A study of teachers' opinions about their initial training with special reference to classroom behaviour management. *Educational Studies.* 19, 1, p91-106.

Merry, R. (1991) Curriculum lessons from Europe. *British Journal of Special Education* 18, 2, pp71-74.

Mertens, D.M. and McLaughin, J.A. (1995) *Research Methods in Special Education,* London. Sage Publications.

Miller, C. (1993) *Planning the Curriculum, SEEP 39 Text 1.* Birmingham, University of Birmingham.

Ministry of Education (1944) *Handbook of Suggestions for the Consideration of Teachers and Others Concerned in the Work of Public Elementary Schools.* London, HMSO.

Moffat, E. A. (1992) Building Success at Dowdales. *All-In-Success* 4, 3, p12-13

Montgomery, D. (1990) *Children with Learning Difficulties.* London, Cassell.

Moore, J. (1992) Good planning is the key. *British Journal of Special Education,* 19,1. pp17-19.

Moore, J. and McCall, C. (undated) Differentiation with the school curriculum, unpublished manuscript used on staff development days.

Moore, J. and Morrison H. (1988) *Someone Else's Problem?* Brighton, Falmer Press.

Moore, W.P. (1993) Preparation of students for testing : teacher differentiation of appropriate and inappropriate practices; paper presented at the annual meeting

of the National Council on Meaurement in Education, ERIC accession no. ED357033.

Mortimore, P.; Sammons, P.: Stoll, Li; Lewis, D.; and Ecob, R. (1988) *School Matters.* Wells, Open Books.

Moss, G. (1996) A strategy for differentiation. *Special Children,* March 1996 pp 37-42.

Murray-Harvey, R. (1994) Learning styles and approaches to learning: distinguishing between concepts and instruments. *Brit. J. of Ed. Psych.* 64, pp373-388.

NARE (1990) *Curriculum for ALL.* Stafford, NARE.

N.C.C. (1989a) *Policy into Practice.* York, National Curriculum Council.

N.C.C. (1989b) *Circular 5 Special Educational Needs.* York, National Curriculum Council.

N.C.C. (1989c) *Curriculum Guidance 2: A Curriculum for ALL.* York, National Curriculum Council.

N.C.C. (1990a) *Planning for Key Stage 4.* York, National Curriculum Council.

N.C.C. (1990b) *Information Pack No.2.* London, HMSO.

N.C.C. (1991) *Science and Pupils with Special Educational Needs.* York, National Curriculum Council.

N.C.C. (1992a) Unpublished associates' briefing: market research, Autumn 1992. TC/BJW/825. York, National Curriculum Council.

N.C.C. (1992b) *Curriculum Guidance Ten : Teaching Science to Pupils with Special Educational Needs.* York, National Curriculum Council.

N.C.C. (1992c) *Curriculum guidance NINE: The National Curriculum and Pupils with Severe Learning Difficulties.* York, National Curriculum Council.

N.C.C. (1993a) *Teaching Science at Key Stages 1 and 2.* York, National Curriculum Council.

N.C.C. (1993b) *Teaching Science at Key Stages 3 and 4.* York, National Curriculum Council.

N.C.C. (1993c) *The National Curriculum at Key Stages 1 and 2 : Advice to the Secretary of State for Education.* York, National Curriculum Council.

N.C.C. (1993d) *Teaching History at Key Stage 3.* York, National Curriculum Council.

N.C.C. (1993e) *Planning the National Curriculum.* York, National Curriculum Council.

N.C.C. (1993f) *Teaching History at Key Stage 1.* York, National Curriculum Council.

Newsome Report (1963) *Half Our Future.* London, DES/HMSO.

Newton, M. (1994) Differentiation- English Resource Pack. *Special Children,* October 1994

N.I.C.C. (1990) *Primary Teachers: Guidance Materials.* Belfast, Northern Ireland Curriculum Council.

Nias, J. (1989) *Primary Teachers Talking.* London. Routlege.

Norwich, B. (1990) *Reapprasing Special Needs Education.* London, Cassells.

Norwich, B. (1994) Differentiation: from the perspective of resolving tensions between basic social values and assumptions about individual differences. *Curriculum Studies*
2.3. pp 289-308.

OfSTED (1991) Well managed classes in primary schools: Case studies of six teachers. Report from office of Her Majesty's Chief Inspector of Schools. Reference 9/93/NS.

OfSTED (1992a) *English: Key Stages 1,2 and 3: A Report by H.M.Inspectors on the Second Year, 1990 - 1991.* London, DfE.

OfSTED (1992b) *Handbook for Inspection of Schools.* London, Office for Standards in Education.

OfSTED (1995a) *Class Size and the Quality of Education.* London, Office for Standards in Education.

OfSTED (1995b) *Guidance on the Inspection of Secondary Schools.* London, HMSO.

OfSTED (1996) *Promoting High Achievement.* London, Office for Standards in Education.

Oppenheim, A.N. (1992). (2nd Edition) *Questionnaire Design, Interviewing and Attitude Measurement.* London. Pinter Publications.

Oxford (1976) (6th Edition) The Oxford Dictionary. Oxford University Press. Oxford.

Passow, A.H. (1989) *Curriculum and Instruction.* Reston, ERIC Clearing House on Urban Education.

Parsons, C.; Hailes, J.; Howlett, K.; Davies, A and Discroll, P. (1995). *National Survey of Local Education Authorities Policies and Procedures for the Identification of, and Provision for, Children who are out of School by Reason of Exclusion or Otherwise.* London. DfE.

Payne, G. (1992) Assessment is an intregal part of teaching: differentiation must be by outcome rather than by task. *All-In-Success.* 4, 3, p10-11.

Penfold, C. (1993) Reflecting on Practice. *Mathematics Teaching.* September.

Peter, M. (1992) Editorial. *British Journal of Special Education* 19, 1, p5.

Phillips, E.M. and Pugh, D.S. (1994) *How to get a Ph.D.* Buckingham, Open University Press.

Plowden Report (1967) *Children and their Primary Schools.* London: HMSO.

Pollard, A. and Tann, S. (1987) *Reflective Teaching in the Primary School.* London, Cassells.

Pollard, A. and Tann, S. (1993) (2nd Edition) *Reflective Teaching in the Primary School: A Handbook for the Classroom.* London, Cassell.

Postlethwaite, K. (1993) *Differentiated Science Teaching.* Buckingham, Open University Press.

Potts, P. (1992) Approaches to Interviewing in Booth, T., Swann, W., Masterton, M. and Potts, P (Editors) *Curriculum for Diversity in Education.* Buckingham. Open University Press.

Powell, M. and Solity, J. (1990) *Teachers in Control.* London, Routledge.

Powell, P.R.; Zehm, S. and Garcia, J. (1996). *Field Experience: Strategies for Exploring Diversity in Schools.* Englewood Heights, Prentice Hall.

Powell, R. (1991) *Resources for Flexible Learning.* Stafford, Network Educational Press.

Rayner, S. and Riding, R. (1997). Towards a categorisation of cognitive styles and learning styles. *Educational Psychology.* 17. 1 and 2. pp 5-27.

Reid, K.; Hopkins, D and Holly, P (1987) *Towards the Effective School.* Oxford, Blackwell.

Reynolds, D. (1996) The truth, the whole class truth. Times Educational Supplement. 7.06.96. p.21.

Riding, R. (1997) On the nature of cognitive style. *Educational Psychology.* 17, 1 and 2, pp.29-49.

Riding, R. and Rayner, S. (1997) (Editors). *Special Issue of Educational Psychology.* Vol.10 Nos. 1 and 2.

Riding, R. and Rayner, S. (1998) *Cognitive Styles and Learning Strategies.* London. David Fulton.

Reynolds, D. (1976) *The Process of Schooling.* London, Routledge and Kegan Paul and Open University.

Richmond, R. and Smith, C. (1990). Support for Special Needs: The class teacher's perspective. *Oxford Review of Education.* 16.3.pp 295-310.

Robbins, B. (1991) Mathematics for all, in Ashdown, R.; Carpenter, B., and Bovair, K. (Editors) *The Curriculum Challenge.* London, Falmer Press.

Robinson, O. and Thomas, G. (1988) *Tackling Learning Difficulties.* London, Hodder and Stoughton.

Robinson, C. (1993) *Real World Research.* London. Blackwell.

Rose, J. (1996) Differentiation. *Child Education*, 73. 6. p.4.

Rosenholtz, S.J. (1980) The effect of classroom structure on shared perceptions of ability. *American Educational Research Journal.* 17pp 75-82.

Rozenholtz, S.J., and Rosenholtz, S.H. (1981). Classroom organisation and the perception of ability. *Sociology of Education.* 54, pp 132-140.

Rutter, M.; Mangham, B.; Mortimor, P. and Ousten, J. with Smith, A. (1979) *Fifteen Thousand Hours: Secondary Schools and Their Effects on Children..* Wells, Open Books.

Rosenshine, B. and Stevens, R. (1986) Teaching functions in Wittrock, M.E. (Editor) *Handbook for Research on Teaching.* New York, Macmillan.

Rotherham (1991a) Differentiation for participation. Unpublished paper by Rotherham LEA Support Services.

Rotherham (1991b) Planning for differentiation. Unpublished document by Rotherham LEA Support Services.

Rowe, F. and James, G. (1995) *Primary School Football: A Session by Session Approach.* London, Falmer.

Sands, M., and Kerry, T. (1982) *Mixed Ability Teaching.* London, Croom Helm.

Sapsford, R. and Abbott, P. (1996) Ethics, politics and research in Sapsford, R. and Jupp, V. (Editors). *Data Collection and Analysis.* London, Sage.

Sapsford, R. and Jupp. V. (1996). (Editors). *Data Collection and Analysis.* London. Sage.

Schon, D. (1983) *The Reflective Practitioner.* New York: Basic Books.

Schon, D. (1987) *Educating the Reflective Practitioner.* London, Jossey-Bass.

Schofield, W. (1996) Survey sampling in Sapford, R., and Jupp, V. (Editors). *Data Collection and Analysis.* London. Sage.

Scott, H. (1991) Towards differentiation in mathematics education. *Mathematics Teaching.* March 1991 p3-7.

Scottish Education Department (1977) *The Structure of the Curriculum in the Third and Fourth Years of the Scottish Secondary Schools.* Edinburgh, HMSO.

Sebba, J. and Fergusson, A. (1991) Reducing the marginalisation of pupils with severe learning difficulties through curricular initiatives, in Ainscow, M. (Editor) *Effective Schools for All.* London, Fulton.

Sebba, J., Byers, R. and Rose, R. (1993) *Redefining the Whole Curriculum for Pupils with Learning Difficulties.* London. Fulton.

Sherrard, C. (1997) Qualitative Research. *The Psychologist.* 10, 4, pp.161-162.

Shipman, M. (1990) *In Search of Learning: A New Approach to School Manangement.* Oxford, Blackwell.

Shulman, L.S. (1986) Paradigms and research programmes in the study of teaching, in Wittrock, M.E. (Editor) *Handbook for Research on Teaching.* New York, Macmillan.

Simpson, J. (1993) Rethinking the role of the special needs co-ordinator:The quality assurer, in Dyson, A. and Gains, C. (Editor) *Rethinking Special Needs in Mainstream Schools: Towards the Year 2000.* London, Fulton.

Simpson, M. (1989) *A Study of Differentiation and Learning in Primary Schools.* Aberdeen, Northern College of Education.

Simpson, M.; Cameron, P.; Goulder, J.; MacPherson, A.; Duncan, A.; Roberts, A. and Smithers, I. (1989) *Differentiation in the Primary School: Investigations of Learning and Teaching.* Aberdeen , Northern College of Higher Education.

Simpson, M. and Ure, J. (1993) *What's the Difference: A Study of Differentiation in Scottish Secondary Schools.* Aberdeen, Northern College of Higher Education.

Smith, I. (1981) Educational Differentiation and curricular guidance: a review. *Educational Studied,* 7, 2, pp 87-94.

Smithers, I. and Goulder, J. (undated) Differentiation and independent learning: a resource pack for use in school. Aberdeen, Northern College of Higher Education.

Solity, J. and Bull, S. (1987) *Special Education: Bridging the Gap.* Milton Keynes, Open University Press.

Sparks-Langer, G. M. and Colton, A.B. (1991) Synthesis of research on teachers' reflective thinking. *Educational Leadership* 48, 6, pp37-44.

Spillman, J. (1991) Decoding differentiation, *Special Children,* January, p7-10.

Stenhouse, L. (1993) *Authority, Education and Emancipation: A Collection of Papers.* London. Heinneman.

Stevenson, C. and Cooper, N. (1997) Qualitative and quantitative research. *The Psychologist.* 10, 4pp. 159-160.

Stevenson, R. J. and Palmer, J. A. (1994) *Learning: Principles, Processes and Practices*. London, Cassells.

Stradling, R. and Saunders, L. (1991) *Differentiation in Action: A Whole School Approach.* London, HMSO.

Stradling, R. and Saunders, L. (1992) Differentiation in action - the potential contribution of special educational needs staff to a whole school approach, in NASEN Conference Report (1992) *Educational Entitlement - Theory in Practice.* Stafford, NASEN.

Stradling, R. and Saunders, L. (1993) *Differentiation in practice: responding to the needs of all pupils.* Educational Research, 35, 2, pp 127-137.

Strauss, A. and Corbin, J. (1990). *Basics of Qualitative Research: Grounded Theory Procedures and Techniques.* London. Sage.

Stenhouse, L (1992) What counts as research? in Booth, T.: Swann, W.; Masterton, M. and Potts, P. (Editors) *Curriculum for Diversity in Education.* Buckingham, Open University Press.

Swann, W. (1988) Learning difficulties and curriculum reforms: integration or differentiation, in Thomas, G. and Feiler, A. (Editors) *Planning for Special Needs.* Oxford, Blackwell.

Tesch, A.R. (1990). *Qualitative Research: Analysis, Types and Software Tools.* London. Falmer Press.

Tempest, A. and Jones, H. (1994) *Planning, Developing and Managing a Differentiated Curriculum.* Totnes, Open School Good Practice Guides.

Thomas, D. (1994) *Differentiation and Progression in Modern Languages*. Rugby, Ass. for Language Learning.

Thomas, G. (1993) Differentiation, classroom organisation and the use of additional adults in the classroom; an unpublished paper given at the British Psychological Education Section Conference November 1993.

Thompson, D. and Barton, L. (1992) The wider context: a free market. *British Journal of Special Education*, 19, 1, p13 - 15.

TGAT (1988) *National Curriculum: Task Group on Assessment and Testing. A Report*. London. DES.

Tilling, M. (1992) What is flexible learning? *All - in - Succcess*, 4, 3, p17 -19.

Tombs, E. (1995) Personal communication.

Tomlinson, S. (1987) *The Sociology of Special Education.* London, Routledge and Kegan Paul.

Topping, K. (1983) *Education Systems for Disruptive Adolescents*. London, Croom Helm.

Torrance, H. (1987) Differentiation and the role of the teacher. *Forum*, 29, 3, p78 -80.

Tubbs, N. (1996) *The New Teacher: An Introduction to Teaching in Comprehensive Education.* London. Fulton.

Tye Green (1991) Broad, balanced and relevant. *Special Children.* v5. 4 pp11-13.

Tyre, C. (1994) *Specific Learning Difficulties.* Litchfield, Q.Ed. Publications.

Visser, J. (1980) Issues involved in the provision in the Secondary School of School based Units for children with behaviour problems. Unpublished. MEd. Dissertation. University College Cardiff.

Visser, J. (1986) Support: a description of the work of the SEN professional. *Support for Learning.* 1,4, pp.5-9.

Visser, J. (1991) Coming to terms with entitlement. *Times Educational Supplement,* 25/10/91, p36.

Visser, J. (1993a) *Differentiation: Making it Work.* Stafford, NASEN.

Visser, J. (1993b) A broad, balanced, relevant and differentiated curriculum, in Visser, J. and Upton, G. (Editors) *Special Education in Britain After Warnock.* London, Fulton.

Visser, J. (1997) Differentiation - enhancing the quality of teaching and learning *REACH* 11, 1, pp31-41.

Vulliamy, G. and Webb, R. (1993) Special educational needs: from disciplinary to pedagogic research. *Disability, Handicap and Society* 8, 2, pp187-202.

Warnock (1978) *Special Educational Needs: A Report of Committee of Enquiry into the Education of Handicapped Children and Young People.* London: HMSO.

Warren, H. (1993) Differentiation: School-based staff development. *Journal of Teacher Development* 2, 3 pp147-150.

Waterhouse, P. (1982) *Managing the Learning Process.* London, McGraw Hill.

Waterhouse, P. (1990) *Classroom Management.* Stafford, Network Educational Press.

Webb, R. (1991) Differentiation; unpublished paper at the NARE Annual Conference 2nd April 1991 at Humberside.

Weinstein, C.E. and Mayer, R.E. (1986) The teaching of learning strategies in Wittrock M.E. (Editor) *Handbook for Research on Teaching*, New York, Macmillan.

Wellington, J. (1994) Secondary Science: Contemporary Issues and Practical Approaches. London. Routledge.

West Sussex (1994) Differentiation; unpublished document for schools written by Advisory and Inspection Service West Sussex.

Weston, P. (1988) *Lower Attaining Pupils Programme: The Search for Success.* Slough, NFER.

Weston, P. (1996) Learning about differentiation in practice. *Topic* 16. p.1-10.

Weston, P. and Mangon, C. (1988) *Learning to Learn: Helping Pupils to improve their Educational Competence.* Slough, NFER.

Weston, P. and Wilson, C. (1991) *Curriculum Differentiation Initiative: Final Evaluation Report.* Windsor: NFER.

Wilcox, B. (1985) Conceptualizing curriculum differences for studies of secondary school effectiveness, *in* Reynolds , D. (Editor*) Studying School Effectiveness.* Brighton, Falmer Press.

Willis, P.E. (1977) *Learning to Labour*. London, Saxon House

Wiltshire (1992) *Differentiating the Secondary Curriculum.* Trowbridge,Wiltshire County Council.

Wolfendale, S. (1987) *Primary Schools and Special Needs, Policy, Planning and Provision*. London, Cassell.

Worcester (undated) *Differentiation: Some ideas for teachers,* unpublished document by Worcester College of Higher Education.

Wragg, T. (1998) Titans' clash forces debate into corners. *Times Educational Supplement.* 6.2.98 p.136.

Wright, D. (1997). *Understanding Statistics*: *An Introduction for the Social Sciences.* London.Sage Publications.